

AD-A041 328

DEPUTY CHIEF OF STAFF FOR RESEARCH DEVELOPMENT AND AC--ETC F/G 5/1
JUSTIFICATION OF ESTIMATES FOR FISCAL YEAR 1978. SUBMITTED TO C--ETC(U)
JAN 77

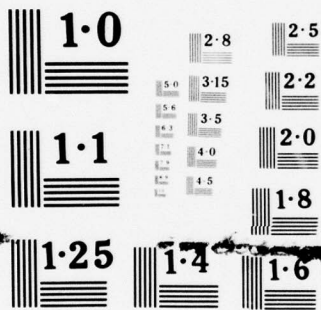
UNCLASSIFIED

NL

1 OF 1
ADA
041328

END

DATE
FILMED
7-77



NATIONAL BUREAU OF STANDARDS
MICROCOPY RESOLUTION TEST CHART

AD A 041328

2

DEPARTMENT OF THE ARMY

JUSTIFICATION OF ESTIMATES FOR FISCAL YEAR 1978

Submitted to Congress
January 1977

COPY AVAILABLE TO DDC DOES NOT
PERMIT FULLY LEGIBLE PRODUCTION



DDC
RECEIVED
JUL 7 1977
D

RESEARCH DEVELOPMENT, TEST AND EVALUATION, ARMY

AD No. _____
DDC FILE COPY

AD No. _____
DDC FILE COPY

DISTRIBUTION STATEMENT
Approved for public release
Distribution Unlimited

Fiscal Year

REPORT DOCUMENTATION PAGE		READ INSTRUCTIONS BEFORE COMPLETING FORM	
1. REPORT NUMBER None	2. GOVT ACCESSION NO.	3. RECIPIENT'S CATALOG NUMBER	
4. TITLE (and Subtitle) Justification of Estimates for FY 1978. <i>Submitted to Congress January 1977</i>		5. TYPE OF REPORT & PERIOD COVERED Final / FY 1978	
7. AUTHOR(s) None		8. CONTRACT OR GRANT NUMBER(s) None	
9. PERFORMING ORGANIZATION NAME AND ADDRESS Office, Deputy Chief of Staff for Research, Development, & Acquisition, DA (DAMA-PPR) Pentagon, Washington DC 20310 (ODCSRDA)		10. PROGRAM ELEMENT, PROJECT, TASK AREA & WORK UNIT NUMBERS -	
11. CONTROLLING OFFICE NAME AND ADDRESS ODCSRDA, DA		12. REPORT DATE January 1977	
14. MONITORING AGENCY NAME & ADDRESS (if different from Controlling Office) ODCSRDA, DA		13. NUMBER OF PAGES 87	
		15. SECURITY CLASS. (of this report) UNCLASSIFIED	
		15a. DECLASSIFICATION/DOWNGRADING SCHEDULE	
16. DISTRIBUTION STATEMENT (of this Report) Approved for public release; distribution unlimited.			
17. DISTRIBUTION STATEMENT (of the abstract entered in Block 20, if different from Report) Same			
18. SUPPLEMENTARY NOTES Sanitized version - deleting all classified material			
19. KEY WORDS (Continue on reverse side if necessary and identify by block number) Justification of Estimates <i>This document contains</i>			
20. ABSTRACT (Continue on reverse side if necessary and identify by block number) Justification of estimates for expenses necessary for basic and applied scientific research, development, test and evaluation, including maintenance, rehabilitation, lease, and operation of facilities and equipment.			

DEPARTMENT OF DEFENSE, MILITARY
RESEARCH, DEVELOPMENT, TEST, AND EVALUATION, ARMY
TABLE OF CONTENTS

Page No.

Section 1: Budget Appendix Extract

Appropriation Language	1
Program and Financing Schedules	2
Object Classification Schedule	8
Personnel Summary	8

Section 2: Program Element Listing

Table of Contents	9
Introduction and Explanation of Contents	10
Summary by Research Activities (Program Category)	11
Summary by Budget Activities	11
Details by Program Element	
Technology Base	12
Advanced Technology Development	14
Strategic Programs	16
Tactical Programs	16
Intelligence and Communications	21
Program-wide Management and Support	21
Detail by Program of Proposed FY 1977 Supplemental Estimates	23

Section 3: Performer Distribution

28

Section 4: Installation Analysis

29

Section 5: Analysis of Reimbursable Program

53

Section 6: Federal Contract Research Centers

56

Section 7: Major Improvement to and Construction of Government-Owned Facilities

68

Funded by RDTE

TABLE OF CONTENTS

Page No.

Section 5: Project Data for Construction at Government-Owned Facilities	
Funded by RDTE	74
Section 9: Flight Simulator Programs	85

ACCESSION BY	
RTIS	Write Section <input checked="" type="checkbox"/>
DOC	Text Section <input type="checkbox"/>
UNANNOUNCED	
JUSTIFICATION	
Hx. on file	
BY	
DISTRIBUTION/AVAILABILITY CODES	
Dist.	AVAIL. and/or SPECIAL
A 23	

DDC
RECEIVED
JUL 9 1977
REGULATORY
D

DISTRIBUTION STATEMENT A
Approved for public release;
Distribution Unlimited

Budget Appendix Extract

DEPARTMENT OF DEFENSE, MILITARY
RESEARCH, DEVELOPMENT, TEST, AND EVALUATION, ARMY
APPROPRIATION LANGUAGE

Section 1

For expenses necessary for basic and applied scientific research, development, test, and evaluation, including maintenance, rehabilitation, lease, and operation of facilities and equipment, as authorized by law; \$2,615,700,000, to remain available for obligation until September 30, 1979. (10 USC 2353, 4503; Department of Defense Appropriation Act, 1977; additional authorizing legislation to be proposed.)

17 JAN 67

RESEARCH, DEVELOPMENT, TEST, AND EVALUATION, ARMY

ARMY

Section 1 (Contd)

PROGRAM AND FINANCING (IN THOUSANDS OF DOLLARS)

OBLIGATIONS

BUDGET PLAN (AMOUNTS FOR MOT+E ACTIONS PROGRAMED)													COLLECTIONS			
IDENTIFICATION CODE	21-2040-0-1-051	1976 ACTUAL	1976 ESTIMATE	1977 ACTUAL	1977 ESTIMATE	1978 ACTUAL	1978 ESTIMATE	1979 ACTUAL	1979 ESTIMATE	1980 ACTUAL	1980 ESTIMATE	1981 ACTUAL	1981 ESTIMATE			
PROGRAM BY ACTIVITIES:																
DIRECT:																
1.	TECHNOLOGY BASE	34,457	88,596	388,752	420,801	338,233	401,000	81,217	401,000	426,700	426,700	426,700	426,700			
2.	ADVANCED TECHNOLOGY DEVELOPMENT	145,007	34,771	131,517	142,543	140,437	149,000	21,441	149,000	140,000	140,000	140,000	140,000			
3.	STRATEGIC PROGRAMS	147,000	50,108	203,256	215,541	190,610	211,800	46,220	211,800	219,000	219,000	219,000	219,000			
4.	TACTICAL PROGRAMS	935,025	244,599	1,188,724	1,431,164	904,108	1,217,000	237,031	1,217,000	1,437,300	1,437,300	1,437,300	1,437,300			
5.	INTELLIGENCE AND COMMUNICATIONS	11,845	3,275	12,984	17,883	11,436	13,800	2,822	13,800	17,000	17,000	17,000	17,000			
6.	PROGRAMME MANAGEMENT AND SUPPORT	331,302	84,109	379,840	397,968	321,279	395,906	81,569	395,906	403,000	403,000	403,000	403,000			
TOTAL DIRECT		1,970,399	2,305,117	2,625,700	2,625,700	1,906,103	2,353,506	470,340	2,353,506	2,643,000	2,643,000	2,643,000	2,643,000			
REIMBURSABLE (TOTAL)		282,030	49,334	280,000	300,000	240,701	294,494	66,100	294,494	270,000	270,000	270,000	270,000			
TOTAL		2,252,429	2,354,451	2,905,700	2,925,700	2,146,804	2,647,990	536,440	2,647,990	2,913,000	2,913,000	2,913,000	2,913,000			
FINANCING:																
OFFSETTING COLLECTIONS FROM:																
11.00	FEDERAL FUNDS	-272,670	-53,378	-277,500	-237,500	-263,659	-277,500	-53,774	-277,500	-297,000	-297,000	-297,000	-297,000			
13.00	TRUST FUNDS	-13,329	-4,401	-9,897	-10,000	-13,329	-9,897	-4,399	-9,897	-10,000	-10,000	-10,000	-10,000			
14.00	NON-FEDERAL SOURCES	-1,054	-723	-2,500	-2,500	-1,054	-2,500	-752	-2,500	-2,500	-2,500	-2,500	-2,500			
21.00	UNOBLIGATED BALANCE AVAILABLE, START OF PERIOD															
21.00	UNOBLIGATED BALANCE AVAILABLE, END OF PERIOD															
FOR COMPLETION OF PRIOR YEAR BUDGET																
PLANS																
REPROGRAMMING FROM OR TO PRIOR YEAR																
BUDGET PLANS																
24.00	UNOBLIGATED BALANCE AVAILABLE, END OF PERIOD	-7,368	5,823													
FOR COMPLETION OF PRIOR YEAR BUDGET																
PLANS																
25.00	UNOBLIGATED BALANCE LAPSING		1,958,008	2,295,220	2,615,700	1,958,008	2,295,220	507,658	2,295,220	2,615,700	2,615,700	2,615,700	2,615,700			
UNOBLIGATED BALANCE LAPSING, BUD PLAN																
BUDGET AUTHORITY																
BUDGET AUTHORITY:																
40.00	APPROPRIATION															
44.10	SUPPLEMENTAL NOW REQUESTED FOR															
WAGE-BOARD PAY RISE																
44.20	SUPPLEMENTAL NOW REQUESTED FOR															
CIVILIAN PAY RISE																
RELATION OF OBLIGATIONS TO OUTLAYS:																
71.00	OBLIGATIONS INCURRED, NET															
72.00	OBLIGATED BALANCE, START OF PERIOD															
73.00	OBLIGATED BALANCE, END OF PERIOD															
74.00	OBLIGATED BALANCE, END OF PERIOD															
77.00	ADJUSTMENTS IN EXPIRED ACCOUNTS															
90.00	OUTLAYS, EXCLUDING PAY RISE SUPPLEMENTAL															
91.10	OUTLAYS FROM WAGE-BOARD PAY RISE SUPPLEMENTAL															
91.20	OUTLAYS FROM CIVILIAN PAY RISE SUPPLEMENTAL															

ARMY

RESEARCH, DEVELOPMENT, TEST, AND EVALUATION, ARMY

17 JAN 77

Section 1 (Cont'd)

PROGRAM AND FINANCING (IN THOUSANDS OF DOLLARS)

1975 FISCAL YEAR PROGRAM

IDENTIFICATION CODE 21-2040-0-1-051

BUDGET PLAN (AMOUNTS FOR
MULTIPLE ACTIONS PROGRAMED)

OBLIGATIONS

	1976 ACTUAL	1976 ESTIMATE	1977 ACTUAL	1977 ESTIMATE	1978 ACTUAL	1978 ESTIMATE	1979 ACTUAL	1979 ESTIMATE	1976 ESTIMATE	1976 ESTIMATE
PROGRAM BY ACTIVITIES:										
DIRECT:										
1. TECHNOLOGY BASE							9,012	359		
2. ADVANCED TECHNOLOGY DEVELOPMENT							3,695	11		
3. STRATEGIC PROGRAMS							5,092	217		
4. TACTICAL PROGRAMS							23,209	1,088		
5. INTELLIGENCE AND COMMUNICATIONS							305	13		
6. PROGRAM/IDE MANAGEMENT AND SUPPORT							3,607	478		
TOTAL DIRECT							50,920	2,176		
REINSURABLE (TOTAL)							22,531	1,400		
TOTAL							73,451	3,576		

PROGRAM BY ACTIVITIES:

DIRECT:

1. TECHNOLOGY BASE
2. ADVANCED TECHNOLOGY DEVELOPMENT
3. STRATEGIC PROGRAMS
4. TACTICAL PROGRAMS
5. INTELLIGENCE AND COMMUNICATIONS
6. PROGRAM/IDE MANAGEMENT AND SUPPORT

TOTAL DIRECT

REINSURABLE (TOTAL)

10.00 TOTAL

FINANCING:

OFFSETTING COLLECTIONS FROM:

11.00 FEDERAL FUNDS

13.00 TRUST FUNDS

14.00 NON-FEDERAL SOURCES

21.00 UNOBLIGATED BALANCE AVAILABLE, START OF PERIOD

FOR COMPLETION OF PRIOR YEAR BUDGET

PLANS

REPROGRAMMING FROM OR TO PRIOR YEAR

BUDGET PLANS

UNOBLIGATED BALANCE AVAILABLE, END OF PERIOD

FOR COMPLETION OF PRIOR YEAR BUDGET

PLANS

UNOBLIGATED BALANCE LAPSING

UNOBLIGATED BALANCE LAPSING, BUDGET PLAN

BUDGET AUTHORITY

17 JAN 77

RESEARCH, DEVELOPMENT, TEST, AND EVALUATION, ARMY

1976 FISCAL YEAR PROGRAM

PROGRAM AND FINANCING (IN THOUSANDS OF DOLLARS)

Section 1 (Cont'd)

OBLIGATIONS

BUDGET PLAN (AMOUNTS FOR

POTENTIAL ACTIONS PROGRAMED)

IDENTIFICATION CODE 21-2040-0-1-051

PROGRAM BY ACTIVITIES:

DIRECT:

1. TECHNOLOGY BASE
2. ADVANCED TECHNOLOGY DEVELOPMENT
3. STRATEGIC PROGRAMS
4. TACTICAL PROGRAMS
5. INTELLIGENCE AND COMMUNICATIONS
6. PROGRAMWIDE MANAGEMENT AND SUPPORT

TOTAL DIRECT

REIMBURSABLE (TOTAL)

10.00

TOTAL

FINANCING:

OFFSETTING COLLECTIONS FROM:

FEDERAL FUNDS

TRUST FUNDS

NON-FEDERAL SOURCES

UNOBLIGATED BALANCE AVAILABLE, START OF PERIOD

FOR COMPLETION OF PRIOR YEAR BUDGET

PLANS

REPROGRAMMING FROM OR TO PRIOR YEAR

BUDGET PLANS

UNOBLIGATED BALANCE AVAILABLE, END OF PERIOD

FOR COMPLETION OF PRIOR YEAR BUDGET

PLANS

BUDGET AUTHORITY

	1970 ACTUAL	1970 ESTIMATE	1970 ACTUAL	1970 ESTIMATE	1970 ACTUAL	1970 ESTIMATE	1970 ACTUAL	1970 ESTIMATE	1970 ACTUAL	1970 ESTIMATE	1970 ACTUAL	1970 ESTIMATE
1. TECHNOLOGY BASE	349,570	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
2. ADVANCED TECHNOLOGY DEVELOPMENT	145,607	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
3. STRATEGIC PROGRAMS	197,000	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
4. TACTICAL PROGRAMS	935,025	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
5. INTELLIGENCE AND COMMUNICATIONS	11,895	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
6. PROGRAMWIDE MANAGEMENT AND SUPPORT	331,302	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
TOTAL DIRECT	1,970,399	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
REIMBURSABLE (TOTAL)	282,030	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
TOTAL	2,252,429	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
FINANCING:												
OFFSETTING COLLECTIONS FROM:												
FEDERAL FUNDS	-272,670	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
TRUST FUNDS	-13,329	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
NON-FEDERAL SOURCES	-1,054	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
UNOBLIGATED BALANCE AVAILABLE, START OF PERIOD	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
FOR COMPLETION OF PRIOR YEAR BUDGET	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
PLANS	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
REPROGRAMMING FROM OR TO PRIOR YEAR	-7,368	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
BUDGET PLANS	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
UNOBLIGATED BALANCE AVAILABLE, END OF PERIOD	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
FOR COMPLETION OF PRIOR YEAR BUDGET	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
PLANS	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
BUDGET AUTHORITY	1,958,008	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....

17 JAN 77

RESEARCH, DEVELOPMENT, TEST, AND EVALUATION, ARMY

PROGRAM AND FINANCING (IN THOUSANDS OF DOLLARS)

1977 FISCAL YEAR PROGRAM

Section I (Cont'd)

IDENTIFICATION CODE 21-20-0-0-1-051

BUDGET PLAN (AMOUNTS FOR ROTARY ACTIONS PROGRAMS)

1976 ACTUAL	1976 ESTIMATE	1977 ACTUAL	1977 ESTIMATE	1978 ACTUAL	1978 ESTIMATE	1979 ACTUAL	1979 ESTIMATE
----------------	------------------	----------------	------------------	----------------	------------------	----------------	------------------

PROGRAM BY ACTIVITIES:

10.00	TOTAL DIRECT REIMBURSABLE (TOTAL)	380,732	372,903	15,049
	1. TECHNOLOGY BASE	131,517	126,834	4,683
	2. ADVANCED TECHNOLOGY DEVELOPMENT	203,236	196,213	7,043
	3. STRATEGIC PROGRAMS	1,188,724	1,154,218	34,506
	4. TACTICAL PROGRAMS	12,988	12,570	-18
	5. INTELLIGENCE AND COMMUNICATIONS	379,880	369,258	10,622
	6. PROGRAMWIDE MANAGEMENT AND SUPPORT	2,305,117	2,231,996	73,121
	TOTAL DIRECT	280,000	250,000	30,000
	TOTAL	2,585,117	2,481,996	103,121

FINANCING:

11.00	OFFSETTING COLLECTIONS FROM:	-277,500	-277,500	
13.00	FEDERAL FUNDS	-9,897	-9,897	
14.00	TRUST FUNDS	-2,500	-2,500	
21.00	NON-FEDERAL SOURCES			
	UNOBLIGATED BALANCE AVAILABLE, START OF PERIOD			
	FOR COMPLETION OF PRIOR YEAR BUDGET PLANS			-103,121
24.00	UNOBLIGATED BALANCE AVAILABLE, END OF PERIOD			
	FOR COMPLETION OF PRIOR YEAR BUDGET PLANS		103,121	

BUDGET AUTHORITY

40.00	BUDGET AUTHORITY:	2,280,816	2,280,816	
44.10	APPROPRIATION			
	SUPPLEMENTAL NOW REQUESTED FOR			
44.20	WAGE-BOARD PAY RISE	1,528	1,528	
	SUPPLEMENTAL NOW REQUESTED FOR			
	CIVILIAN PAY RAISE	12,876	12,876	

17 JAN 77

RESEARCH, DEVELOPMENT, TEST, AND EVALUATION, ARMY

ARMY

1976 FISCAL YEAR PROGRAM

Section I (Contd)

PROGRAM AND FINANCING (IN THOUSANDS OF DOLLARS)

OBLIGATIONS

BUDGET PLAN (AMOUNTS FOR
ACTIVE ACTIONS PROGRAMMED)

IDENTIFICATION CODE 21-2040-0-1-051

	1976 ACTUAL	1976 ACTUAL	1976 ESTIMATE	1976 ACTUAL	1976 ESTIMATE	1976 ESTIMATE	1976 ESTIMATE
PROGRAM BY ACTIVITIES:							
DIRECT:							
1. TECHNOLOGY BASE			420,801				410,851
2. ADVANCED TECHNOLOGY DEVELOPMENT			142,543				135,317
3. STRATEGIC PROGRAMS			216,541				211,957
4. TACTICAL PROGRAMS			1,431,164				1,402,794
5. INTELLIGENCE AND COMMUNICATIONS			17,683				16,582
6. PROGRAMWIDE MANAGEMENT AND SUPPORT			397,968				392,378
TOTAL DIRECT			2,825,700				2,569,879
REIMBURSABLE (TOTAL)			300,000				240,000
TOTAL			2,925,700				2,809,879

10.00

FINANCING:

OFFSETTING COLLECTIONS FROM:							
FEDERAL FUNDS			-297,500				-297,500
TRUST FUNDS			-10,000				-10,000
NON-FEDERAL SOURCES			-2,500				-2,500
UNOBLIGATED BALANCE AVAILABLE, END OF PERIOD							
FOR COMPLETION OF PRIOR YEAR BUDGET PLANS							
BUDGET AUTHORITY			2,615,700				2,615,700

BUDGET AUTHORITY

RESEARCH, DEVELOPMENT, TEST, AND EVALUATION, ARM:

17 JAN 77

ARMY

Section 1 (Contd)

OBJECT CLASSIFICATION (IN THOUSANDS OF DOLLARS)

IDENTIFICATION CODE 21-2040-0-1-051

1976 1970 1977 1978
ACTUAL ACTUAL ESTIMATE ESTIMATE

PERSONNEL COMPENSATION
11.1 PERMANENT POSITIONS
11.3 POSITIONS OTHER THAN PERMANENT
11.5 OTHER PERSONNEL COMPENSATION
TOTAL PERSONNEL COMPENSATION

277,134 71,241 289,635 289,990
4,600 1,185 4,804 4,806
1,170 341 1,225 1,022
282,904 72,767 294,469 295,820
=====

DIRECT OBLIGATIONS:
PERSONNEL COMPENSATION
PERSONNEL BENEFITS: CIVILIAN
TRAVEL AND TRANSPORTATION OF PERSONS
TRANSPORTATION OF THINGS
RENT, COMMUNICATIONS, AND UTILITIES
OTHER RENT, COMMUNICATIONS, AND UTILITIES
PRINTING AND REPRODUCTION
OTHER SERVICES:
CONTRACTS
OTHER
SUPPLIES AND MATERIALS
EQUIPMENT

240,187 62,035 251,135 254,444
21,011 5,519 23,349 23,634
19,257 4,244 24,046 25,000
5,597 1,961 6,135 7,843
18,103 3,751 20,161 20,631
1,846 970 1,934 2,129
=====

TOTAL DIRECT OBLIGATIONS

1,503,862 368,437 1,959,807 2,167,123
47,397 13,095 49,842 56,455
49,043 10,328 52,093 56,151
1,906,103 470,340 2,388,506 2,643,000
=====

REIMBURSABLE OBLIGATIONS:
PERSONNEL COMPENSATION
PERSONNEL BENEFITS: CIVILIAN
TRAVEL AND TRANSPORTATION OF PERSONS
TRANSPORTATION OF THINGS
RENT, COMMUNICATIONS, AND UTILITIES
OTHER RENT, COMMUNICATIONS, AND UTILITIES
PRINTING AND REPRODUCTION
OTHER SERVICES:
OTHER
SUPPLIES AND MATERIALS
EQUIPMENT

42,717 10,732 43,323 41,376
4,125 947 4,514 4,311
4,547 1,349 5,842 4,708
724 207 764 691
3,321 970 4,403 4,507
233 52 300 311
155,794 43,150 209,847 184,970
12,088 4,066 11,532 10,760
18,552 4,621 17,161 18,266
240,701 60,100 248,494 270,000
=====

TOTAL REIMBURSABLE OBLIGATIONS

2,146,804 536,440 2,687,000 2,913,000
=====

TOTAL OBLIGATIONS

PERSONNEL SUMMARY

TOTAL NUMBER OF PERMANENT POSITIONS
FULL-TIME EQUIVALENT OF OTHER POSITIONS
AVERAGE PAID EMPLOYMENT
AVERAGE GS GRADE
AVERAGE GS SALARY
AVERAGE SALARY OF UNGRADED POSITIONS

14,737 14,652 14,647
732 595 595
15,150 15,027 14,994
9.51 9.51 9.51
\$19,040 \$20,073 \$20,125
\$13,625 \$14,946 \$16,129

DEPARTMENT OF DEFENSE, MILITARY
RESEARCH, DEVELOPMENT, TEST, AND EVALUATION, ARMY
PROGRAM ELEMENT LISTING
TABLE OF CONTENTS

Section 2

	<u>Page No.</u>
1. Introduction and Explanation of Contents	10
Summaries by:	
1. Research Activities (Program Category)	11
2. Budget Activities	11
Details by Program Element:	
1. Technology Base	12
2. Advanced Technology Development	14
3. Strategic Programs	16
4. Tactical Programs	16
5. Intelligence and Communications	21
6. Programwide Management and Support	21
Detail by Program of Proposed FY 1977 Supplemental Estimates	23

Section 2 (Contd)

PROGRAM ELEMENT LISTING
INTRODUCTION AND EXPLANATION OF CONTENTS

This section has been prepared for the purpose of providing summary program element budget information concerning the US Army Research, Development, Test, and Evaluation Program. The listing is preceded by two summaries: the first by Research Activities (Program Category), the second by Budget Activities.

A separate document, Descriptive Summaries, furnishes detail by project. In addition, it furnishes narrative information on all RDTE program elements and projects of \$3.0 million or more. The index number in the right-hand column of this Program Element Listing refers to the appropriate page in the Descriptive Summaries. The funding information used in these volumes corresponds to that contained in the President's Budget.

A direct comparison of FY 1976, FY 1977, and FY 1978 data in this Program Element Listing with data shown in the Program Element Listing dated January 1976 will reveal significant differences. Many of the differences are attributable to the following factors:

a. A FY 1976 increase of \$4.691 million representing additional recoupments from RDTE surcharges on Foreign Military Sales and transfer of reimbursements from prior years.

b. A FY 1977 net reduction of \$81.1 million resulting from the following:

(1) Congressional reduction	-	\$-95.5 million
(2) Proposed supplemental for civilian pay raises	-	+14.4 million

c. Reclassification to provide greater visibility and contribute to the effective management of the RDTE program such as the following:

- (1) The Medical RDTE Program
- (2) Combat Support Munitions
- (3) Field Artillery Weapons Ammunition Development
- (4) Mobility Equipment Technology
- (5) Further extension of the Single Program Element Funding Concept.

d. Restructuring of the FY 1976, FY 1977, and FY 1978 programs for comparability to the FY 1978 program structure.

e. Planned RDTE effort to be accomplished at installations operating under the Army Industrial Fund (AIF) will require supplemental funds to cover civilian pay raises included in AIF stabilized rates.

Section 2 (Contd)

DEPARTMENT OF THE ARMY
FY 1978 R D T + E PROGRAM

		DATE: 03 JAN 1977			
		THOUSANDS OF DOLLARS			
		SUMMARY			
		FY 1976	FY 1977	FY 1978	FY 1979
SUMMARY RECAP OF RESEARCH CATEGORIES					
RESEARCH		80,746	97,884	103,531	117,184
EXPLORATORY DEVELOPMENT		268,824	290,868	317,270	330,915
ADVANCED DEVELOPMENT		468,517	469,900	586,234	839,949
ENGINEERING DEVELOPMENT		702,426	965,897	1,097,633	986,218
MANAGEMENT AND SUPPORT		332,301	381,184	399,017	438,003
RESEARCH AND DEVELOPMENT (FYDP PROGRAM 6)		1,852,814	2,205,733	2,503,685	2,712,269
OPERATIONAL SYSTEMS DEVELOPMENT		117,585	99,384	122,015	118,358
TOTAL RESEARCH DEVELOPMENT TEST + EVAL, ARMY		1,970,399	2,305,117	2,625,700	2,830,627
SUMMARY RECAP OF BUDGET ACTIVITIES					
TECHNOLOGY BASE		349,570	388,752	420,801	448,099
ADVANCED TECHNOLOGY DEVELOPMENT		145,607	131,517	142,543	226,383
STRATEGIC PROGRAMS		197,000	203,256	215,541	244,435
TACTICAL PROGRAMS		935,025	1,108,724	1,431,164	1,459,276
INTELLIGENCE AND COMMUNICATIONS		11,895	12,988	17,683	14,694
PROGRAMMIDE MANAGEMENT AND SUPPORT		331,302	379,880	397,968	437,740
TOTAL RESEARCH DEVELOPMENT TEST + EVAL, ARMY		1,970,399	2,305,117	2,625,700	2,830,627
SUMMARY RECAP OF FYDP PROGRAMS					
GENERAL PURPOSE FORCES		102,834	84,377	90,818	86,100
INTELLIGENCE AND COMMUNICATIONS		15,551	15,007	31,197	32,258
RESEARCH AND DEVELOPMENT (FYDP PROGRAM 6)		1,852,814	2,205,733	2,503,685	2,712,269
TOTAL RESEARCH DEVELOPMENT TEST + EVAL, ARMY		1,970,399	2,305,117	2,625,700	2,830,627

DEPARTMENT OF THE ARMY
FY 1978 R O Y + E PROGRAM

EXHIBIT R-1

DATE: 03 JAN 1977

Section 2 (Contd)

APPROPRIATION: 2000 A RESEARCH DEVELOPMENT TEST + EVAL, ARMY

PROGRAM LINE ELEMENT NO	ITEM NOMENCLATURE	ACT	THOUSANDS OF DOLLARS				FY 1979 C	E	DESCRIPTIVE SUMMARY PAGE NUMBER
			FY 1976	FY 1977	FY 1978	FY 1979			
1	011014 IN-HOUSE LAB INDEPENDENT RESEARCH	1	12,248	14,637	14,722	17,200	U	1	
2	011024 DEFENSE RESEARCH SCIENCES	1	68,498	83,247	88,609	99,984	U	9	
3	021054 MATERIALS	1	10,430	10,526	11,205	13,923	U	69	
4	021114 ATMOSPHERIC INVESTIGATIONS	1	4,450	4,330	6,452	5,557	U	73	
5	021204 FUZE, NUCLEAR WPNS EFFECTS, FLUIDICS	1	11,007	12,884	11,905	11,810	U	77	
6	022014 AIRCRAFT WEAPONS TECHNOLOGY	1	1,600	1,842	1,227	1,310	U	81	
7	022024 AIRCRAFT AVIONICS TECHNOLOGY	1	4,250	5,006	5,850	6,003	U	84	
8	022034 AERONAUTICAL TECHNOLOGY	1	14,601	15,810	15,693	15,752	U	88	
9	022104 AIRCRAFT TECHNOLOGY	1	768	995	1,230	1,283	U	92	
10	023034 MISSILE TECHNOLOGY	1	27,894	28,343	28,500	30,140	U	96	
11	025014 TANK AND AUTOMATIVE TECHNOLOGY	1	7,462	7,163	6,980	8,585	U	112	
12	026034 LARGE CAL + NUCLEAR TECH	1						115	
13	026034 ADVANCE CONCEPTS LAB (TACOM)	1	14,304	1,000	1,500	3,348	U	119	
14	026174 SMALL CALIBER + FIRE CONTROL TECHNOLOGY	1	15,626	13,574	11,032	9,945	U	121	
15	026194 BALLISTICS TECHNOLOGY	1	4,269	17,711	17,500	18,648	U	125	
16	026224 CHEMICAL MUNITIONS + CHEMICAL COMBAT SUPPORT	1	2,670	4,121	3,832	3,544	U	129	
17	027014 COMMUNICATIONS ELECTRONICS	1	6,519	4,328	4,382	4,502	U	133	
18	027034 CHEM SURV TARGET ACQ + ID	1		4,356	4,277	5,276	U	137	
19	027044 MIL ENVIRONMENTAL CRITERIA DEV	1	10,208	3,000	3,040	4,311	U	141	
20	027054 ELECTRICAL AND ELECTRONIC DEVICES	1	11,820	11,211	15,022	14,547	U	145	
21	027064 CHEM BIL DEFENSE AND GENL INVEST	1	3,270	12,774	12,114	10,893	U	150	
22	027074 MAPPING + GEODESY	1	880	3,188	4,656	4,116	U	153	
23	027084 NIGHT VISION INVESTIGATIONS	1	6,930	5,143	5,246	5,063	U	157	

Section 2 (Contd)

DEPARTMENT OF THE ARMY
FY 1978 R J T + E PROGRAM

EXHIBIT R-1

APPROXIMATE 2040 R RESEARCH DEVELOPMENT TEST + EVAL. ARMY

DATE: 03 JAN 1977

PROGRAM LINE ELEMENT NO NUMBER	ITEM NOMENCLATURE	ACT	THOUSANDS OF DOLLARS					S	E
			FY 1976	FY 1977	FY 1978	FY 1979	FY 1980		
24	027154 TACTICAL SELF PROTECTIVE EW TECHNOLOGY	1						C	160
25	027154 HUMAN FACTORS IN MIL SYSTEMS	1	4,009	3,463	5,505			6,622 U	164
26	027174 ARMY PERSONNEL HANDPOWER TECH	1	2,354	2,375	4,077			4,539 U	168
27	027194 MIL CONSTRUCTION AND ENGR TECH	1	3,715	2,812	4,855			5,027 U	171
28	027224 ENVIRONMENTAL QUALITY TECH	1	11,804	12,120	10,350			10,249 U	174
29	027214 COMPUTER AIDED DESIGN-ENGR (H)	1	202					U	
30	027224 ARMY TRAINING TECHNOLOGY	1	3,106	3,876	4,957			4,819 U	185
31	027234 CLOTHING/EQUIP/PACKAGING TECH	1	2,672	2,406	3,450			3,934 U	188
32	027244 FOOD TECHNOLOGY	1	8,880	9,725	8,062			6,723 U	193
33	027254 COMPUTER AND INFORMATION SCIENCE	1	2,920	2,880	3,559			3,290 U	201
34	027254 ARMY SUPPORT CARPA, HOMLS	1	400	1,000	2,000			2,000 U	206
35	027274 NON-SYSTEM TRAINING DEVICES	1		2,500	2,300			4,250 U	209
36	027304 CONSTRUCTION OPS TECH FOR COLD REGIONS	1	2,530	2,730	3,186			3,203 U	212
37	027314 DESIGN CONSTRUCTION FOR MILITARY FACILITIES	1	4,625	5,032	6,254			6,463 U	215
38	027324 RVV SUPPORTING TECHNOLOGY	1		1,500	1,500			3,000 U	218
39	027334 MOBILITY EQUIPMENT TECHNOLOGY	1	8,813	8,914	9,926			12,002 U	221
40	027344 MEDICAL TECH FOR DEF AGAINST CHEMICAL AGENTS	1	5,489	6,042	6,541			7,074 U	230
41	027434 TACTICAL ELECTRONIC WARFARE (EW)	1							233
42	027714 MIL INFECT DISEASE TECHNOLOGY	1	12,687	14,093	15,530			16,154 U	237
43	027714 MIL PSYCHIATRY AND MICROWAVE INJURY	1	2,459	3,040	3,120			2,417 U	246
44	027724 RECOVERY FROM INJURY	1	6,943	7,305	8,428			8,097 U	249
45	027734 HELICOPTER COMBAT CREW ABN MEDICINE	1	1,581	1,838	2,026			2,211 U	254
46	027744 MILITARY BURN TECHNOLOGY	1	545	747	657			717 U	257

DEPARTMENT OF THE ARMY
FY 1978 R U T + E PROGRAM

EXHIBIT A-1

Section 2 (Contd)

APPROPRIATION 2-40-A RESEARCH DEVELOPMENT TEST + EVAL, ARMY

DATE: 03 JAN 1977

PROGRAM LINE ELEMENT NO NUMBER	ITEM NOMENCLATURE	ACT	THOUSANDS OF DOLLARS					E	S	DESCRIPTIVE SUMMARY PAGE NUMBER
			FY 1976	FY 1977	FY 1978	FY 1979	FY 1980			
47	0-7751 COMBAT MAXILL/FACIAL INJURY	1	958	241	1,048	1,155	1,260	U		260
48	0-7754 MED DEF AGAINST BIOLOGICAL AGENTS	1	6,359	1,600	6,657	7,063	7,564	U		263
49	0-7774 MILITARY ENVIRONMENTAL STRESS	1	2,092	526	2,287	2,521	2,752	U		266
50	0-7784 COMBAT MEDICAL MATERIAL	1	1,163	293	1,272	1,402	1,531	U		269
51	0-7794 TEST MEDS DIAGNOSTIC EQUIP TECH	1	352	112	450	505	435	U		272
	TECHNOLOGY BASE		349,570	88,596	388,752	420,801	448,099			
52	0-3101 MATERIALS SCALE UP	2	950	500	1,235	2,382	4,502	U		275
53	0-3134 FLUIDICS	2					500	U		278
54	0-3212 AIRCRAFT POWER PLANTS AND PROPULSION	2	1,077	575	3,857	4,057	10,000	U		280
55	0-3254 AIRCRAFT WEAPONS	2	4,309	1,100	1,717	340	4,501	U		288
56	0-3278 AIRCRAFT AVIONICS EQUIPMENT	2	2,082	300	2,039	2,560	3,194	U		291
57	0-3284 AIRCRAFT SURVIVABILITY	2	2,550	330	2,383	1,453	4,750	U		296
58	0-3291 AIR MOBILITY SUPPORT	2	5,273	605	2,700	3,053	5,979	U		299
59	0-32114 ADVANCED VTOL	2	5,282	1,935	6,328	2,808	6,000	U		303
60	0-32124 TILT ROTOR RESEARCH AIRCRAFT	2	3,315	900	2,574	871	900	U		310
61	0-32134 ROTAX SYSTEMS RESEARCH AIRCRAFT (M)	2	4,606					U		
62	0-3304 TERMINAL GUIDANCE SYSTEMS	2	3,385	22	3,006	4,841	10,500	U		314
63	0-33134 MSU/ROCKET COMPONENTS	2	8,196	550	4,892	4,210	9,500	U		317
64	0-33144 HI-ENERGY LASER COMPONENTS	2	26,000	8,200	21,000	13,749	20,975	U		325
65	0-35024 ADVANCED LAND MOB SYSTEMS CONCEPTS	2			3,220	4,841	7,000	U		335
66	0-36044 NUCLEAR MUNITIONS AND RADIACS	2								338
67	0-36054 LAUNCHER WARFARE	2	4,500	1,237	3,240	4,408	3,877	U		341
68	0-36074 ARMY SMALL ARMS PROGRAM	2	4,968	2,441	2,716	695	3,452	U		344

DEPARTMENT OF THE ARMY
FY 1978 R U T + E PROGRAM

EXHIBIT R-1

Section 2 (Contd)

APPROPRIATION 2002 - RESEARCH DEVELOPMENT TEST + EVAL. ARMY

DATE: 03 JAN 1977

PAGE NO LINE ELEMENT NO	ITEM NOMENCLATURE	ACT	THOUSANDS OF DOLLARS					E	S	DESCRIPTIVE SUMMARY PAGE NUMBER
			FY 1976	FY 1977	FY 1978	FY 1979	FY 1980			
69	030704 WARFARING AND AMMUNITION	2		1,898	4,791			2,575	U	348
70	030704 ADVANCED FUZE DESIGN	2	1,750	2,267	852		430	1,409	U	351
71	030704 INVESTIGATING CHEMICAL MUN CONCEPTS	2	9	332				754	U	354
72	030704 LETHAL CHEMICAL MUNITIONS CONCEPTS	2	771	855	618		810	1,043	U	356
73	030704 COUNTERLINE AND BARRIERS	2	4,911	2,118	6,243		407	4,886	U	359
74	030704 VEHICLE ENGINE DEVELOPMENT	2	4,779	3,997	4,729		1,454	9,566	U	364
75	030704 MOBILITY	2						4,617	U	369
76	030704 ELECTRIC POWER SOURCES	2	3,418	3,944	3,310		1,130	6,838	U	371
77	030704 ADME DEVELOPMENTS	2	1,270	1,703	4,631		455	5,984	U	379
78	030704 IFF DEVELOPMENTS	2	200	1,403	581		53	1,500	U	384
79	030704 NIGHT VISION ADVANCED DEVELOPMENT	2	12,000	13,430	12,951		2,600	16,289	U	387
80	030704 SPECIAL PURPOSE DETECTIONS	2		1,500	1,355			1,400	U	390
81	030704 BIOLOGICAL DEFENSE MATERIEL CONCEPTS	2			457			1,678	U	392
82	030704 CHEMICAL DEFENSE MATERIEL CONCEPTS	2	3,440	5,063	5,652		720	9,953	U	394
83	030704 COMMAND AND CONTROL	2	8,363	7,397	6,437		2,030	10,500	U	399
84	030704 REMOTELY POWERED VEHICLES/DROGONES	2	11,375	5,692	9,011		2,090	7,600	U	402
85	030704 MIL REPS PERFORMANCE DEVELOPMENT	2	2,136	3,531	2,624		759	5,500	U	408
86	030704 COMBAT MEDICAL MATERIEL (ADVI)	2	81	88	94		20	106	U	414
87	030704 ENVIRONMENTAL QUALITY CONTR EQ	2		203					U	
88	030704 NON-DESTRUCTIVE TESTING DEVICES	2	1,999	2,888	5,150		25	4,500	U	416
89	030704 METEOROLOGICAL EQUIPMENT DEVELOPMENT	2		1,257	1,137			2,145	U	421
90	030704 ADVANCED ELECTRONIC DEVICES DVLPMT	2			1,227			2,000	U	424
91	030704 TRO P UTILIZATION IN MIL SYSTEMS	2	4,169	5,504	8,420		987	9,951	U	428

DEPARTMENT OF THE ARMY									
FY 1978 R O T + E PROGRAM									
EXHIBIT R-1									
DATE: 03 JAN 1977									
APPROPRIATION: 2040 A RESEARCH DEVELOPMENT TEST + EVAL, ARMY									
THOUSANDS OF DOLLARS									
PROGRAM LINE ELEMENT NO	ITEM NOMENCLATURE	ACT	FY 1976	FY 1977	FY 1978	FY 1979	FY 1980	FY 1981	DESCRIPTIVE SUMMARY PAGE NUMBER
92	037444 ARMY CONTEMPORARY ISSUES OVLPT	2	485	300	485	500	U	431	
93	037478 SULLY SUPPORT SURVIVABILITY	2	1,276	1,241	1,990	3,932	U	434	
94	037488 ADV TECH FOR AUTOMATIC TEST EQUIP	2	2,470	890	2,734	4,602	U	437	
95	037538 OPER BASING TECHNOLOGY	2			3,389	7,000	U	440	
96	057104 JOINT US CONTACT PLINT AND TEST	2						442	
ADVANCED TECHNOLOGY DEVELOPMENT									
97	033044 BNC ADVANCED TECHNOLOGY	3	97,000	102,734	107,297	121,519	U	445	
98	033088 BALLISTIC MSB DEF SYS TECH	3	100,000	100,072	107,688	122,000	U	450	
99	037354 MMJCS ARCHITECTURE	3		450	556	916	U	453	
STRATEGIC PROGRAMS									
100	032034 HEAVY LIFT HELICOPTER (H)	4	6,509				U		
101	033314 ADVANCED FMV AREA AIR DEFENSE SYSTEM	4	3,055	200	24,206	50,836	U	562	
102	033334 SURF-TO-SURF MSB ROCKET SYS	4	1,000	5,000	30,113	24,000	U	568	
103	033074 AD SUPPRESSION MISSILE	4	1,359	499			U		
104	033114 PERFORM II	4	19,000	36,300	29,645	54,186	U	571	
105	033154 HELICOPTER MSB GUIDANCE TECHNOLOGY	4			2,094	10,000	U	577	
106	033174 GRASS BLADE	4	4,000	2,000	13,459	11,610	U	580	
107	033194 ART-NARY AREA SAM	4							
108	033194 CONVENTIONAL AIRFIELD ATTACK MISSILE	4							
109	033114 ADV AUTOMATIC GUNBOX (H)	4	2,900	1,500	3,232	4,600	U	581	
110	033124 ADVANCED MULTITARGET MISSILE	4			2,968	11,000	U	584	
111	033154 TANK JAM COLLECTIVE DEVELOPMENT	4	540	1,200	11,232	23,403	U	590	

Section 2 (Contd)

DEPARTMENT OF THE ARMY
FY 1976 R O F + E PROGRAM

EXHIBIT 4-1

APPROPRIATIONS 2040 A RESEARCH DEVELOPMENT TEST & EVAL, ARMY

DATE: 03 JAN 1977

PROGRAM LINE NO	ELEMENT NO	ITEM NOMENCLATURE	ACT	THOUSANDS OF DOLLARS					E FY 1979	S PAGE NUMBER
				FY 1976	FY 1977	FY 1978	FY 1979	FY 1980		
112	035254	ARMORED CAVALRY VEHICLE	4	1,541	3,370	174	2,108	U	584	
113	035274	COMBAT SUPPORT MOUNTAINS	4	2,260	1,863	2,374	2,247	U	596	
114	036284	FIELD ARTILLERY APNS + AMMO DEV	4	4,018	3,746	9,679	13,657	U	599	
115	037044	UNATTENDED GROUND SENSORS	4	3,800	3,050	5,891	4,831	U	606	
116	037054	PHYSICAL SECURITY	4	1,999		485	500	U	613	
117	037074	COMMUNICATIONS DEVELOPMENT	4	1,528	3,795	5,236	9,600	U	616	
118	037114	TACTICAL SELF PROTECTIVE EW EQUIP	4						623	
119	037124	MAPPING AND GEODESY	4	300	817	1,072	2,279	U	626	
120	037134	EM VULNERABILITY/SUSCEPTIBILITY	4						630	
121	037224	TACTICAL OPERATIONS SYSTEM (TOS)	4	4,300	3,483	6,777	11,939	U	640	
122	037254	COMBAT SUPPORT EQUIPMENT	4	4,817	3,540	3,484	10,429	U	646	
123	037324	TACTICAL SURVEILLANCE SYSTEM	4	5,550	7,014	11,274	11,162	U	651	
124	037374	ANTI-RADIATION MSL COUNTER MEASURES	4	1,200	205	3,401	5,042	U	654	
125	037404	DIVISIONAL AIR DEFENSE CMD CONTR	4		500	485	500	U	657	
126	037454	TACTICAL ELECTRONIC WARFARE SYS	4						660	
127	037484	SINIGARS-V	4	1,240	3,950	11,328	14,592	U	683	
128	042014	AIRCRAFT ADVISORS	4	5,388	3,817	4,878	6,801	U	688	
129	042024	AIRCRAFT WEAPONS	4	4,765	3,325	15,786	10,723	U	695	
130	042034	AERIAL DOG	4	709	130			U		
131	042044	AIR MOBILITY SUPPORT EQUIPMENT	4	3,738	6,482	7,515	6,928	U	704	
132	042054	UTIL TAG TRANS ACFT SYS (UTTAGS)	4	93,672	75,456	34,837	2,985	U	711	
133	042074	ADVANCED ATTACK HELICOPTER	4	73,330	130,843	206,000	178,543	U	724	
134	042084	AIRCRAFT SUPPORTABILITY EQUIPMENT	4	3,490	5,319	4,659	5,180	U	732	

Section 2 (Cont'd)									
DEPARTMENT OF THE ARMY									
FY 1978 R U T + E PROGRAM									
EXHIBIT R-1									
DATE: 03 JAN 1977									
THOUSANDS OF DOLLARS									
PROGRAM LINE ELEMENT NO	ITEM NOMENCLATURE	ACI	FY 1976	FY 1977	FY 1978	FY 1979	FY 1980	FY 1981	DESCRIPTIVE SUMMARY PAGE NUMBER
135 042124	COBRA TOW	4	3,750	7,482	14,398	10,827	U	736	
136 042134	GM-47 MODERNIZATION	4	9,800	25,975	32,022	16,336	U	744	
137 042144	INTER-SCOUT HELICOPTER	4			18,300	14,800	U	751	
138 043024	AIR DEFENSE CONTROL COORD SYSTEM	4	5,837	343			U		
139 043084	STINGER	4	22,659	25,425	17,509	24,688	U	753	
140 043074	PATRIOT (SAM-6)	4	130,000	180,248	214,558	210,027	U	760	
141 043084	PRECISION LASER DESIGNATOR	4	7,700	2,200	5,326	3,993	U	768	
142 043094	ROLAND	4	54,905	11,510	54,003	19,149	U	775	
143 043104	HELLFIRE MISSILE-HELLFIRE	4	4,000	800	50,482	67,714	U	781	
144 043014	INFANTRY SUPPORT WEAPONS	4	3,270	650	629	9,509	U	788	
145 043024	WEAPONS & AMMUNITION	4	6,903	400	2,089	3,537	U	793	
146 043034	NUCLEAR MUNITIONS	4					U	798	
147 043044	MOBILITY	4	170						
148 043054	FIELD ARTILLERY WEAPONS & AMMO 105MM	4	7,539	6,878	1,617	1,892	U	811	
149 043064	EXPLOSIVE DEMOLITIONS	4	352	459	95	1,563	U	818	
150 043084	ARMY SMALL ARMS PROGRAM	4	430	450	485	500	U	820	
151 043094	COMBAT SUPPORT SYSTEMS	4	631	1,957	2,620	3,957	U	822	
152 043104	LETAL CHEMICAL MUNITIONS	4	3,503	1,448	2,771	2,175	U	825	
153 043124	COUNTERMINE AND BARRIERS	4	2,335	730	6,202	13,925	U	828	
154 043134	INCAPACITATING CHEMICAL MUNITIONS	4				1,514	U	837	
155 043144	FIELD ARTILLERY WEAPONS & AMMO 155MM	4	3,958	5,325	5,105	5,119	U	839	
156 043154	MOBIL THERMAL SIGHT	4	5,713	8,223	2,451		U	849	
157 043164	MECHANIZED INF BATT VEHICLE M723	4	18,315	30,069	25,251	15,523	U	852	

DEPARTMENT OF THE ARMY
FY 1978 RDT + E PROGRAM
APPROPRIATION 2340 A RESEARCH DEVELOPMENT TEST + EVAL. ARMY

EXHIBIT R-1
DATE: 03 JAN 1977

Section 2 (Contd)

PROGRAM LINE ELEMENT NO	ITEM NOMENCLATURE	ACT	THOUSANDS OF DOLLARS				DESCRIPTIVE SUMMARY PAGE NUMBER
			FY 1976	FY 1977	FY 1978	FY 1979 C	
158	040114 VEH RAPID FIRE WPN SYSTEM-BUSHMASTER	4	10,000	20,169	12,237	6,111 U	858
159	040134 MACHINE WARFARE	4	14,831	8,459	9,251	17,200 U	864
160	040204 TANK SYSTEMS	4	52,835	105,749	117,746	76,757 U	871
161	040214 COUNTERHEAD	4	14,000	36,119	36,028	363 U	877
162	040234 VIPER	4	4,686	15,806	6,515	2,283 U	883
163	040264 IMPROVED TOW VEHICLE	4	4,453	5,999	822	U	887
164	040274 FIELD ARTILLERY WEAPONS & AMMO & IN	4	4,346	4,404	1,748	1,737 U	890
165	040314 COMM ENGINEERING DEV	4	6,861	5,687	11,674	13,853 U	893
166	040344 UNATTENDED GROUND SENSORS	4	2,548	7,200	7,109	11,958 U	905
167	040404 RADIOLOGICAL DEFENSE EQUIPMENT	4	1,202	508	810	1,092 U	912
168	040494 IFF EQUIPMENT	4	5,640	2,504	3,838	2,000 U	915
169	040504 NIGHT VISION DEVICES	4	4,550	4,327	2,362	5,042 U	918
170	040714 TACTICAL SELF PROTECTIVE EW SYSTEMS	4	5,426	976	3,903	2,559 U	925
171	040712 JT ADV TAC COMM/CONTROL/COMM PROG	4	2,782	672	1,150	5,349 U	930
172	040713 COMBAT FEEDING, CLOTHING AND EQUIPMENT	4	4,524	7,855	8,192	5,314 U	933
173	040714 TACTICAL ELECTRICAL POWER SOURCES	4	2,900	2,141	2,542	8,706 U	938
174	040715 NON-SYSTEM TRAINING DEVICES-ENG	4	3,420	3,036	3,804	3,485 U	943
175	040716 MAPPING AND GEODESY	4	446	774	1,109	10,106 U	947
176	040717 GENERAL COMBAT SUPPORT	4	4,733	1,290	1,656	2,066 U	950
177	040718 PHYSICAL SECURITY	4	3,954	3,011	3,761	5,500 U	953
178	040723 SPECIAL PURPOSE DETECTORS	4	2,177	5,037	4,789	1,696 U	958
179	040724 BIOLOGICAL DEFENSE MATERIEL	4				6,313 U	961
180	040725 CHEMICAL DEFENSE MATERIEL	4					

Section 2 (Contd)

DEPARTMENT OF THE ARMY
FY 1978 R J T + E PROGRAM

EXHIBIT R-1

APPROPRIATION: 2040 A RESEARCH DEVELOPMENT TEST + EVAL, ARMY

DATE: 03 JAN 1977

THOUSANDS OF DOLLARS

PROGRAM LINE ELEMENT NO NUMBER	ITEM NOMENCLATURE	ACT	FY 1976	FY 1970	FY 1977	FY 1978	FY 1979 C	DESCRIPTIVE SUMMARY PAGE NUMBER
181 04725A	METEOROLOGICAL EQUIPMENT SYSTEMS	4	907	138	259	184	1,009 U	966
182 04727A	COMMAND AND CONTROL	4	2,634	1,930	6,497	8,608	6,772 U	969
183 04729A	FAMECE/NET (UNIVERSAL ENGR TRACTOR)	4	4,180	831	6,907	4,880	2,275 U	974
184 04729A	COUNTER RPTER RADAR	4	8,820	1,425	5,817	4,270	4,381 U	979
185 04730A	REMOTELY PILOTED VEHICLES	4					8,500 U	982
186 04731A	COUNTER BATTERY RADAR	4	10,340	1,200	10,799	11,354	4,849 U	984
187 04732A	TACTICAL SURVEILLANCE SYSTEM	4				13,920	22,778 U	992
188 04745A	TACTICAL EM SYSTEMS	4						995
189 04746A	AUTOMATIC TEST SUPPORT SYSTEMS	4	1,866	426	1,695	13,052	11,165 U	1014
190 04747A	JOINT COMB AND INTEROP (GAMJ-EA)	4	1,750	1,012	1,745	7,822	10,550 U	1021
191 04748A	STANDOFF TARGET ACQUISITION SYSTEM	4	4,749	1,219	8,136	12,962	23,920 U	1024
192 05711A	COMM ELECTRONICS TESTING ACTVS	4	3,420	758	3,277	3,385	3,482 U	1030
193 23719A	SHILLELUM (LBR) NSL SYS	4	1,900	210	1,999		U	
194 23723A	LANG CRST SPT SYS (LC3S)	4	251	176			U	
195 23724A	M7 ANTI-TANK ASSAULT WPN SYS (TOM)	4	8,951	1,210	2,893	544	515 U	457
196 23725A	140 FIRE JIR SYS (TAGFIRE)	4	4,513	360	5,409	828	747 U	465
197 23727A	MED ANTI-TANK ASSAULT WPN (DRAGON)	4	2,545	365	4,004	2,836	1,208 U	473
198 23730A	CHMPFARM	4	4,890	1,710	6,011	5,229	600 U	482
199 23731A	SAM HAWK/HAWK IMP PRUG	4	14,922	3,117	19,561	12,538	18,445 U	492
200 23732A	VULCAN	4	1,000		2,000	193	4,871 U	502
201 23733A	LANCE (NNL) WARHEAD	4			1,100	5,218	5,921 U	507
202 23735A	M60A1 TANK PRODUCT IMP PRUG	4	3,053	865	4,366	4,556	4,813 U	516

Section 2 (Contd)

DEPARTMENT OF THE ARMY
FY 1978 R U T + E PROGRAM

EXHIBIT R-1

APPROPRIATION: 2000 - RESEARCH DEVELOPMENT TEST + EVAL, ARMY

DATE: 03 JAN 1977

LINE ELEMENT NO	ITEM DESCRIPTION	ACT	THOUSANDS OF DOLLARS					S E C	DESCRIPTIVE SUMMARY PAGE NUMBER
			FY 1976	FY 1977	FY 1978	FY 1979	FY 1980		
203	630104 JT TACTICAL COMM PROG (JTT-TAC)	4	59,909	37,328	58,676	48,980	U	524	
204	330124 SATCOM JRCOME ENVIRONMENT	4	9,981	8,752	13,280	17,000	U	545	
205	330154 ECOM CS SYSTEMS	4	500	1,241	2,752	1,164	U	558	
	TACTICAL PROGRAMS		935,025	1,188,724	1,431,164	1,459,276			
206	630304 NAVSTAR GLOBAL POSITIONING SYS	5	6,400	7,518	1,937	U	1051		
207	650324 INTL COOPERATIVE RESEARCH AND DEV	5	425	456	581	600	U	1054	
208	310224 SCIENTIFIC AND TECH INTELLIGENCE	5						1034	
209	320534 NMCS WIDE SUPPORT COMMUNICATIONS	5		2,614	2,614	2,000	U	1037	
210	330314 COMSEC	5						1040	
211	351044 NAVSTAR GLOBAL POSITIONING SYSTEM	5							
	INTELLIGENCE AND COMMUNICATIONS		11,895	12,988	17,683	5,509	U	1047	
212	632154 JOINT SURVIVABILITY INVESTIGATIONS	6	600	500	581	600	U	1057	
213	633154 TARGET MISSILES	6	2,496	2,800	2,905	4,000	U	1060	
214	651014 STUDIES AND ANALYSES	6	5,000	3,800	3,971	5,400	U	1063	
215	651024 TRAJECTORY STUDIES AND ANALYSES	6	3,000	2,425	3,389	4,000	U	1066	
216	653114 KWAJALEIN MISSILE RANGE	6	77,827	62,926	67,239	93,820	U	1070	
217	657224 SUPPORT OF DEVELOPMENT TESTING	6	24,919	22,563	23,524	28,473	U	1074	
218	65736A MATERIAL SYSTEMS ANALYSIS	6	10,682	9,274	9,224	10,122	U	1093	
219	65737A SUPPORT USER TEST - TRAJECT	6	13,250	16,926	18,107	19,650	U	1099	
220	65739A THEATER NUCLEAR FORCE SURVIVABILITY	6	1,000	483	1,373	3,200	U	1111	
221	65739A EVALUATION OF FOREIGN COMPONENTS	6	1,285	2,013	3,359	3,500	U	1113	
222	657124 SUPPORT USER TEST - OTEA	6	4,105	7,390	7,501	7,455	U	1117	

Section 2 (Contd)		DEPARTMENT OF THE ARMY		EXHIBIT R-1			
APPROPRIATION 2040 - RESEARCH DEVELOPMENT TEST + EVAL, ARMY		FY 1978 R J T + E PROGRAM		DATE: 03 JAN 1977			
				THOUSANDS OF DOLLARS			
PROGRAM LINE ELEMENT NO NUMBER	ITEM NOMENCLATURE	ACT	FY 1976	FY 1977	FY 1978	FY 1979 C	DESCRIPTIVE SUMMARY PAGE NUMBER
223 05713A	BATTLEFIELD SYSTEMS INTEGRATION	6		4,812	4,551	7,000 U	1122
224 05801A	PROGRAM-WIDE ACTIVITIES	6	53,322	60,978	70,131	72,176 U	1125
225 05803A	TECHNICAL INFO ACTIVITIES	6	3,101	3,873	3,426	4,559 U	1135
226 05804A	MAJOR REL TIE FACILITIES-GARCOM	6	130,815	159,117	158,657	173,785 U	1139
	PROGRAM-WIDE MANAGEMENT AND SUPPORT		331,302	379,860	397,958	437,740	
TOTAL RESEARCH DEVELOPMENT TEST + EVAL, ARMY			1,970,399	2,305,117	2,625,700	2,830,627	

DEPARTMENT OF DEFENSE, MILITARY
RESEARCH, DEVELOPMENT, TEST, AND EVALUATION, ARMY
DETAIL BY PROGRAM OF PROPOSED FY 1977 SUPPLEMENTAL ESTIMATES
(\$ in Thousands)

Section 2 (Contd)

Program Element Number	Title	Base Estimate	Civilian Pay Incr. Costs Supplemental	Adjusted Estimate
Technology Base				
6.11.01.A	In-House Laboratory Independent Research	14,502	135	14,637
6.11.02.A	Defense Research Sciences	82,240	1,007	83,247
6.21.05.A	Materials	10,126	400	10,526
6.21.11.A	Atmospheric Investigations	4,266	64	4,330
6.21.20.A	Fuze, Nuclear Weapons Effects, Fluidics	12,652	232	12,884
6.22.01.A	Aircraft Weapons Technology	1,798	44	1,842
6.22.02.A	Aircraft Avionics Technology	4,926	80	5,006
6.22.09.A	Aeronautical Technology	15,604	206	15,810
6.23.03.A	Missile Technology	28,634	306	28,940
6.26.01.A	Tank and Automotive Technology	7,034	129	7,163
6.26.03.A	Large Caliber and Nuclear Technology	13,360	214	13,574
6.26.17.A	Small Caliber and Fire Control Technology	17,453	258	17,711
6.26.18.A	Ballistics Technology	4,057	64	4,121
6.26.22.A	Chemical Munitions and Chemical Combat Support	4,000	28	4,028
6.27.01.A	Communications Electronics			
6.27.03.A	Combat Surveillance Target Acquisition and Identification	4,231	125	4,356
6.27.05.A	Electrical and Electronic Devices	11,050	161	11,211
6.27.06.A	Chemical Biological Defense and General Investigation	12,598	176	12,774
6.27.07.A	Mapping and Geodesy	3,100	88	3,188
6.27.09.A	Night Vision Investigations	5,085	64	5,149
6.27.15.A	Tactical Self Protective Electronic Warfare Technology			
6.27.16.A	Human Factors in Military Systems	3,831	32	3,863
6.27.19.A	Military Construction and Engineering Technology	2,631	181	2,812

Section 2 (Contd)
DETAIL BY PROGRAM OF PROPOSED FY 1977 SUPPLEMENTAL ESTIMATES
(\$ in Thousands)

<u>Program Element Number</u>	<u>Title</u>	<u>Base Estimate</u>	<u>Civilian Pay Incr. Costs Supplemental</u>	<u>Adjusted Estimate</u>
<u>Technology Base (Continued)</u>				
6.27.20.A	Environmental Quality Technology	12,000	120	12,120
6.27.22.A	Army Training Technology	3,800	76	3,876
6.27.23.A	Clothing, Equipment, and Packaging Technology	2,346	60	2,406
6.27.24.A	Food Technology	9,564	161	9,725
6.27.30.A	Construction Operations Technology for Cold Regions	2,691	39	2,730
6.27.33.A	Mobility Equipment Technology	8,719	195	8,914
6.27.34.A	Medical Technology for Defense Against Chemical Agents	5,753	289	6,042
6.27.70.A	Military Infectious Disease Technology	14,001	92	14,093
6.27.71.A	Military Psychiatry and Microwave Injury	2,879	161	3,040
6.27.72.A	Recovery From Injury	7,213	92	7,305
6.27.76.A	Medical Defense Against Biological Agents	6,453	204	6,657
	Subtotal - Technology Base	(382,718)	6,034	(388,752)
<u>Advanced Technology Development</u>				
6.32.01.A	Aircraft Power Plants and Propulsion	3,850	7	3,857
6.32.06.A	Aircraft Weapons	1,612	105	1,717
6.32.07.A	Aircraft Avionics Equipment	2,015	24	2,039
6.32.08.A	Aircraft Survivability	2,380	3	2,383
6.32.09.A	Air Mobility Support	2,676	24	2,700
6.32.11.A	Advanced Vertical Take Off Landing (VTOL)	6,300	28	6,328
6.32.12.A	Tilt Rotor Research Aircraft	2,560	14	2,574
6.33.13.A	Missile/Rocket Components	4,868	24	4,892
6.36.04.A	Nuclear Munitions and Radiacs			
6.36.06.A	Landmine Warfare	3,110	130	3,240
6.36.07.A	Army Small Arms Program	2,622	96	2,718
6.36.13.A	Advanced Fuze Design	2,260	7	2,267
6.36.15.A	Lethal Chemical Munitions Concepts	809	46	855
6.36.19.A	Countermine and Barriers	2,097	21	2,118
6.36.21.A	Vehicle Engine Development	3,972	25	3,997

Section 2 (Contd) DETAIL BY PROGRAM OF PROPOSED FY 1977 SUPPLEMENTAL ESTIMATES
(\$ in Thousands)

<u>Program Element</u>	<u>Base</u>	<u>Civilian Pay</u>	<u>Adjusted</u>
<u>Number</u> <u>Title</u>	<u>Estimate</u>	<u>Incr. Costs</u> <u>Supplemental</u>	<u>Estimate</u>
<u>Advanced Technology Development (Continued)</u>			
6.37.02.A	3,900	44	3,944
6.37.03.A	1,685	18	1,703
6.37.10.A	13,338	92	13,430
6.37.21.A	5,007	53	5,060
6.37.23.A	7,373	24	7,397
6.37.25.A	5,678	14	5,692
6.37.31.A	3,475	56	3,531
6.37.48.A	1,164	29	1,193
6.57.10.A			
Subtotal - Advanced Technology Development	(130,518)	999	(131,517)
<u>Strategic Programs</u>			
6.33.04.A	102,664	70	102,734
6.33.08.A	100,000	72	100,072
Subtotal - Strategic Programs	(203,114)	142	(203,256)
<u>Tactical Programs</u>			
6.36.28.A	3,536	210	3,746
6.37.07.A	3,771	24	3,795
6.37.11.A			-
6.37.12.A	810	7	817
6.37.18.A			
6.37.22.A	3,472	11	3,483
6.37.26.A	3,501	39	3,540
6.37.45.A			
6.42.01.A	3,773	44	3,817
6.42.02.A	3,901	24	3,925
6.42.04.A	6,471	11	6,482

Section 2 (Contd)
DETAIL BY PROGRAM OF PROPOSED FY 1977 SUPPLEMENTAL ESTIMATES
(\$ in Thousands)

Program Element Number	Title	Base Estimate	Civilian Pay Incr. Costs Supplemental	Adjusted Estimate
<u>Tactical Programs (Continued)</u>				
6.42.07.A	Advanced Attack Helicopter	130,801	42	130,843
6.42.09.A	Aircraft Survivability Equipment	5,310	9	5,319
6.43.02.A	Air Defense Control Coordination System	339	9	348
6.43.06.A	STINGER	25,349	76	25,425
6.43.07.A	PATRIOT (SAM-D)	179,953	295	180,248
6.43.09.A	ROLAND	85,001	25	85,026
6.43.10.A	Heliborne Missile-HELLFIRE	17,774	44	17,818
6.46.03.A	Nuclear Munitions			
6.46.05.A	Field Artillery Weapons and Ammunition, 105mm	6,598	280	6,878
6.46.09.A	Combat Support Systems	1,929	28	1,957
6.46.10.A	Lethal Chemical Munitions	2,856	122	2,978
6.46.12.A	Countermine and Barriers	5,273	25	5,298
6.46.15.A	Tank Thermal Sight	8,199	24	8,223
6.46.16.A	Mechanized Infantry Combat Vehicle, XM723	29,897	169	30,066
6.46.17.A	Vehicle Rapid Fire Weapons System-BUSHMASTER	20,000	169	20,169
6.46.19.A	Landmine Warfare	8,258	201	8,459
6.46.20.A	Tank Systems	105,356	393	105,749
6.46.21.A	COPPERHEAD	36,081	38	36,119
6.47.01.A	Communications Engineering Development	5,651	36	5,687
6.47.06.A	Radiological Defense Equipment	505	3	508
6.47.10.A	Night Vision Devices	2,427	77	2,504
6.47.12.A	Joint Advanced Tactical Command, Control, and Communications Program			
6.47.13.A	Combat Feeding, Clothing and Equipment	4,320	7	4,327
6.47.14.A	Tactical Electrical Power Sources	5,235	39	5,274
6.47.16.A	Mapping and Geodesy	3,400	52	3,452
6.47.17.A	General Combat Support	2,125	16	2,141
6.47.24.A	Biological Defense Material	3,022	14	3,036
6.47.25.A	Chemical Defense Material	3,000	11	3,011
6.47.26.A	Meteorological Equipment and Systems	4,985	52	5,037
6.47.27.A	Command and Control	250	9	259
		6,472	25	6,497

Section 2 (Contd) DETAIL BY PROGRAM OF PROPOSED FY 1977 SUPPLEMENTAL ESTIMATES
(\$ in Thousands)

<u>Program Element Number</u>	<u>Title</u>	<u>Base Estimate</u>	<u>Civilian Pay Incr. Costs Supplemental</u>	<u>Adjusted Estimate</u>
<u>Tactical Programs (Continued)</u>				
6.47.28.A	Family of Military Engineering Construction Equipment/Universal Engineer Tractor (FAMECE/UET)	6,898	9	6,907
6.47.45.A	Tactical Electronic Warfare Equipment			
6.57.01.A	Communications Electronics Testing Activities	3,253	24	3,277
2.37.26.A	Tactical Fire Direction System (TACFIRE)	5,400	9	5,409
2.37.30.A	CHAPARRAL	5,000	11	5,011
2.37.31.A	SAM HAWK/HAWK Improvement Program	19,550	11	19,561
2.37.35.A	M60A1 Tank Product Improvement Program	4,063	3	4,066
2.80.10.A	Joint Tactical Communications Program (TRI-TAC)	37,263	65	37,328
3.31.42.A	Satellite Communications (SATCOM) Ground Environment	8,710	42	8,752
	Subtotal - Tactical Programs	(1,185,653)	3,071	(1,188,724)
<u>Intelligence and Communications</u>				
3.34.01.A	Communications Security (COMSEC) Equipment			
	Subtotal - Intelligence and Communications	(12,964)	24	(12,988)
<u>Programwide Management and Support</u>				
6.53.01.A	Kwajalein Missile Range	82,854	72	82,926
6.57.02.A	Support of Development Testing	22,440	123	22,563
6.57.06.A	Material Systems Analysis	9,100	174	9,274
6.57.07.A	Support User Test - TRADOC	16,803	123	16,926
6.57.09.A	Evaluation of Foreign Components	2,010	3	2,013
6.58.01.A	Programwide Activities	59,488	1,490	60,978
6.58.03.A	Technical Information Activities	3,841	32	3,873
6.58.04.A	Major Research and Development and Test Facilities - DARCOM	157,000	2,117	159,117
	Subtotal - Programwide Management and Support	(375,746)	4,134	(379,880)
	All Other Programs	398,750		398,750
	TOTAL PROGRAM	2,290,713	14,404	2,305,117

DEPARTMENT OF DEFENSE, MILITARY
RESEARCH, DEVELOPMENT, TEST, AND EVALUATION, ARMY
PERFORMER DISTRIBUTION
(\$ in Thousands)

Section 3

Appropriation: Research, Development, Test, and Evaluation, Army

	FY 1976	FY 1977	FY 1978	FY 1979
1. For operation of installations of the reporting DOD Component				
Government operated.	669,198	708,035	743,999	778,292
2. For operation of installations of the reporting DOD Component				
Contractor operated.	49,089	53,060	55,681	62,151
3. For contracts directly in support of work actually performed at installations of the reporting DOD Component	34,309	41,683	42,637	43,970
4. For work assigned to other Department of Defense activities.	212,941	230,241	270,344	286,798
5. For work assigned to activities of other Government agencies.	38,107	21,647	18,482	19,918
6. For work performed by industrial contractors ("profit" organizations)	906,580	1,178,518	1,415,309	1,553,843
7. For work performed by educational institutions				
a. Designated Fed Contract Res Centers.	10,110	10,670	11,097	11,763
b. Other Institutions	31,847	39,493	44,531	47,055
8. For work performed by other "non-profit" organizations.				
a. Designated Fed Contract Res Centers.	1,782	3,612	4,729	5,238
b. Other Institutions	16,436	18,158	18,891	21,599
9. Total Research, Development, Test, and Evaluation, Army Appropriation	1,970,399	2,305,117	2,625,700	2,830,627

DEPARTMENT OF DEFENSE, MILITARY
RESEARCH, DEVELOPMENT, TEST, AND EVALUATION, ARMY
INSTALLATION ANALYSIS - IN-HOUSE

Section 4

This installation analysis indicates the resources of dollars and manpower utilized by Army installations in the accomplishment of the in-house research, development, test, and evaluation effort, including contractor operated installations, under the management control of the Army. Installations reported include both installations classified as research, development, or test installations and research, development, or test units located at multi-mission installations. Funds being reported cover both direct costs and indirect or support costs. These funds are a part of project costs shown in the budget for the various projects. The amounts reflected under the category "RDTE Funds" include funds received directly through command channels, and reimbursable RDTE effort performed for other Army activities and other Department of Defense agencies. "All Other Funds" reflect the in-house effort at multi-mission installations for other than Research, Development, Test, and Evaluation, Military Construction and Military Personnel costs. Military Personnel costs reflect those military personnel assigned to RDTE activities and other military personnel located at the installation in support of non-RDTE activities at multi-mission posts.

The personnel reflected are reported in terms of man years utilized as opposed to the number of personnel spaces. Spaces assigned to support Army RDTE effort are divided between spaces charged directly to the RDTE appropriation as reflected in the personnel summary (Page 8) and spaces assigned to the Army Industrial Fund and indirectly charged to the RDTE appropriation. Contractor personnel shown are engaged in direct support or operation of Army installations.

DEPARTMENT OF DEFENSE, MILITARY
RESEARCH, DEVELOPMENT, TEST, AND EVALUATION, ARMY
INSTALLATION ANALYSIS - IN-HOUSE

Section 4 (Contd)

<u>Item No.</u>	<u>Installation</u>	<u>Page No.</u>
<u>Army Industrial Fund Installations</u>		
1.	Aberdeen Proving Ground, Aberdeen, Maryland.	33
2.	Dugway Proving Ground, Dugway, Utah.	33
3.	Edgewood Arsenal, Edgewood, Maryland.	33
4.	Frankford Arsenal, Philadelphia, Pennsylvania.	33
5.	Harry Diamond Laboratories, Washington, DC.	34
6.	Materials and Mechanics Research Center, Watertown, Massachusetts.	34
7.	Missile R&D Command, Redstone Arsenal, Huntsville, Alabama	34
8.	Picatinny Arsenal, Dover, New Jersey.	34
9.	Rodman Laboratory, Rock Island, Illinois.	35
10.	Watervliet Arsenal, Watervliet, New York.	35

INDEX

<u>Army Non-Industrial Fund Installations</u>				
11.	Aeromedical Research Laboratory, Ft Rucker, Alabama.			36
12.	Air Defense Board, Ft Bliss, Texas.			36
13.	Air Mobility R&D Laboratory, Moffett Field, California.			36
14.	Airborne Communications & Electronics Board, Ft Bragg, North Carolina.			36
15.	Aircraft Development & Test Activity, Ft Rucker, Alabama.			37
16.	Arctic Test Center, Fort Greely, Alaska.			37
17.	Armament Command Headquarters, Rock Island, Illinois.			37
18.	Armor and Engineer Board, Ft Knox, Kentucky.			37
19.	Army Materiel Command, Headquarters, Project Managers.			38
20.	Army Materiel Development & Readiness Command, Headquarters, Alexandria, Virginia.			38
21.	Army Research Office, Research Triangle Park, North Carolina.			38
22.	Army Security Agency Analyses Application Facility, Warrenton, Virginia.			38
23.	Army Security Agency, Arlington Hall Station, Virginia.			39
24.	Army Security Agency, Test & Evaluation Center, Ft Huachuca, Arizona.			39
25.	Army Training Devices Agency, Orlando, Florida.			39

DEPARTMENT OF DEFENSE, MILITARY
RESEARCH, DEVELOPMENT, TEST, AND EVALUATION, ARMY
INSTALLATION ANALYSIS - IN-HOUSE

Section 4 (Contd)

INDEX

Item No.	Installation	Page No.
	<u>Army Non-Industrial Fund Installations</u>	
26.	Atmospheric Sciences Laboratory, WhiteSands Missile Range, Las Cruces, New Mexico.	39
27.	Aviation Engineering Flight Activity, Edwards Air Force Base, California	40
28.	Aviation Systems Command Headquarters, St. Louis, Missouri	40
29.	Aviation Test Board, Ft Rucker, Alabama.	40
30.	Ballistic Missile Defense Advanced Technology Center, Huntsville, Alabama.	40
31.	Ballistic Missile Defense Program Office, Arlington, Virginia.	41
32.	Ballistic Missile Defense Systems Command, Huntsville, Alabama	41
33.	Cold Regions Research & Engineering Laboratory, Hanover, New Hampshire	41
34.	Computer Systems Command, Ft Belvoir, Virginia	41
35.	Construction Engineering Research Laboratories, Urbana, Illinois	42
36.	Electronics Command Headquarters, Ft Monmouth, New Jersey.	42
37.	Electronics Proving Ground, Ft Huachuca, Arizona	42
38.	Engineer Topographic Laboratories, Ft Belvoir, Virginia.	42
39.	Engineer Waterways Experimental Center, Vicksburg, Mississippi	43
40.	Facilities Engineer Support Agency, Ft Belvoir, Virginia	43
41.	Field Artillery Board, Ft Sill, Oklahoma	43
42.	Human Resource Units, Various Locations.	43
43.	Infantry Board, Ft Benning, Georgia.	44
44.	Institute of Surgical Research, Ft Sam Houston, Texas.	44
45.	Jefferson Proving Ground, Madison, Indiana	44
46.	Kwajalein Missile Range, Marshall Islands.	44
47.	Letterman Army Institute of Research, San Francisco, California.	45
48.	Liaison Field Offices, Various Locations	45
49.	Medical Bio-Engineering R&D Laboratory, Ft Detrick, Maryland	45
50.	Medical R&D Command, Washington, DC.	45

DEPARTMENT OF DEFENSE, MILITARY
RESEARCH, DEVELOPMENT, TEST, AND EVALUATION, ARMY
INSTALLATION ANALYSIS - IN-HOUSE

Page No. _____

<u>Item No.</u>	<u>Installation</u>	<u>Page No.</u>
<u>Army Non-Industrial Fund Installations</u>		
51.	Medical Research Institute of Infectious Diseases, Ft Detrick, Maryland.	46
52.	Mobility Equipment R&D Center, Ft Belvoir, Virginia.	46
53.	Natick Laboratories, Natick, Massachusetts.	46
54.	Night Vision Laboratory, Ft Belvoir, Virginia.	46
55.	Office, Chief of Engineers, Washington, DC.	47
56.	Research Institute for the Behavioral & Social Sciences, Arlington, Virginia.	47
57.	Research Institute of Environmental Medicine, Natick, Massachusetts.	47
58.	Satellite Communications Agency, Ft Monmouth, New Jersey.	47
59.	Standardization Group, Australia.	48
60.	Standardization Group, Canada.	48
61.	Standardization Group, United Kingdom.	48
62.	Tank Automotive Command, Warren, Michigan.	48
63.	Test & Evaluation Command Headquarters, Aberdeen, Maryland.	49
64.	TRADOC Combined Arms Test Activity (TCATA), Ft Hood, Texas.	49
65.	TRADOC Combined Arms Test Activity (TCATA) Support Office, Ft Hood, Texas.	49
66.	TRADOC Security Board, Ft Huachuca, Arizona.	50
67.	Tri-Service Tactical Communications Systems (TRI-TAC), Ft Monmouth, New Jersey.	50
68.	Tropic Test Center, Panama, Canal Zone.	50
69.	Walter Reed R&D Activities, Washington, DC.	51
70.	White Sands Missile Range, Las Cruces, New Mexico.	51
71.	Yuma Proving Ground, Yuma, Arizona.	51

DEPARTMENT OF DEFENSE, MILITARY
RESEARCH, DEVELOPMENT, TEST, AND EVALUATION, ARMY
INSTALLATION ANALYSIS - IN-HOUSE

Section 4 (Cont'd)

TOA (\$ in Thousands)										PERSONNEL (Man Years)									
Installation and Location		RDTE Funds		All		Subtotal		Mil. Pers.		Civil Service			Contractor			Mil. Pers.			
		Mgmt. Bureau	Other Army	DOD	Funds					Other	Paid	From Army	Other RDTE	Paid From Other RDTE	From Other RDTE	Work	Other		
FY	Army Industrial Fund Installations																		
76	Aberdeen Proving Ground, Aberdeen, Maryland	68,083	1,005	3,506	2,748	75,342	2,842	-	-	78,184	2,353	58	-	-	261	-	2,672		
TQ		16,463	148	560	530	17,701	788	-	-	18,489	582	15	-	-	70	-	667		
77		73,063	745	2,020	1,159	76,987	4,200	-	-	81,187	2,252	23	-	-	370	-	2,645		
78		71,880	600	2,195	2,146	76,821	3,800	-	-	80,621	2,252	23	-	-	338	-	2,613		
79		79,835	645	2,310	1,366	84,156	3,800	-	-	87,956	2,252	23	-	-	338	-	2,613		
2.	Dugway Proving Ground, Utah	9,902	-	-	-	9,902	1,808	305	305	12,015	631	24	-	-	166	28	849		
TQ		3,315	-	-	-	3,315	473	79	79	3,867	158	6	-	-	42	7	213		
77		11,096	-	-	-	11,096	2,077	318	318	13,491	561	30	-	-	183	28	802		
78		11,115	-	-	-	11,115	2,057	315	315	13,487	531	60	-	-	183	28	802		
79		11,621	-	-	-	11,621	2,057	315	315	13,993	546	45	-	-	183	28	802		
3.	Edgewood Arsenal, Edgewood, Maryland	31,302	129	653	18,201	50,285	1,263	272	272	51,820	785	12	195	-	116	25	1,133		
TQ		7,538	21	-	2,563	10,122	315	79	79	10,516	198	-	48	-	28	7	281		
77		29,224	100	1,100	9,661	40,085	1,283	148	148	41,516	673	16	114	-	113	13	929		
78		31,457	100	900	12,811	45,268	1,270	146	146	46,684	674	13	117	-	113	13	930		
79		34,005	100	900	12,811	47,816	1,270	146	146	49,232	674	13	117	-	113	13	930		
4.	Frankford Arsenal, Philadelphia, Pennsylvania	5,284	182	234	2,204	7,904	11	-	-	7,915	450	6	59	-	1	-	516		
TQ		2,130	-	-	658	2,788	-	-	-	2,788	115	-	15	-	-	-	130		
77		3,943	200	300	1,115	5,558	-	-	-	5,558	427	13	50	-	-	-	490		
78	Deactivated.																		
79																			

1/ Exclusive of Military Personnel and Military Construction

DEPARTMENT OF DEFENSE, MILITARY
RESEARCH, DEVELOPMENT, TEST, AND EVALUATION, ARMY
INSTALLATION ANALYSIS - IN-HOUSE

Section 4 (Contd)

Installation and Location Army Industri- al Fund Installations	FY	TOA (\$ in Thousands)				PERSONNEL (Man Years)									
		RDTE Funds		All		Civil Service		Contractor		Mil. Pers.					
		Mgmt. Bureau	Other Army	Other DOD	Subtotal	Mil. Pers. RDTE Other	Total	Paid From Army RDTE	Paid From Other RDTE	Paid From Other RDTE	In RDTE	Work	Other	Total	
5. HarryDiamond Laboratories, Washington, DC	76	21,030	470	9,818	7,858	39,176	39,285	377	-	1,028	-	-	-	10	1,415
	TQ	6,522	50	2,650	726	9,948	9,982	82	-	269	-	-	-	3	354
	77	22,087	383	10,020	3,999	36,489	36,602	335	-	1,019	-	-	-	10	1,364
	78	20,228	-	7,092	2,759	30,079	30,191	409	-	945	-	-	-	10	1,364
	79	21,020	-	7,092	2,759	30,871	30,983	409	-	945	-	-	-	10	1,364
6. Materials and Mechanics	76	11,680	2,209	734	6,177	20,800	20,931	465	16	182	1	-	12	-	676
	TQ	3,026	413	43	1,646	5,128	5,162	111	4	46	-	-	3	-	164
	77	10,810	2,800	400	5,631	19,641	19,823	419	14	184	1	-	16	-	634
	78	11,312	2,956	300	8,085	22,653	22,833	419	14	184	1	-	16	-	634
	79	12,790	3,620	380	8,500	25,290	25,470	419	14	184	1	-	16	-	634
7. Missile R&D Command, Red- stone Arsenal, Huntsville, Alabama	76	51,923	1,509	822	210	54,464	55,694	1,422	17	4	-	-	113	-	1,556
	TQ	17,025	100	213	-	17,338	17,664	396	5	-	-	-	29	-	430
	77	59,166	955	940	-	61,061	62,514	1,560	20	-	-	-	128	-	1,708
	78	63,258	755	940	-	64,953	66,403	1,624	20	-	-	-	129	-	1,773
	79	61,269	755	940	-	62,964	64,414	1,531	20	-	-	-	127	-	1,678
8. Picatinny Ar- senal, Dover, New Jersey	76	34,053	307	1,741	47,811	83,912	84,827	1,956	10	2,208	-	-	53	31	4,258
	TQ	7,588	151	831	11,953	20,523	20,759	485	2	542	-	-	13	8	1,050
	77	30,314	425	5,558	44,821	81,118	82,139	2,259	13	2,353	-	-	58	32	4,715
	78	37,528	200	4,419	46,354	88,501	89,648	2,642	27	2,565	-	-	69	33	5,336
	79	46,602	350	1,016	51,865	99,833	101,070	2,984	36	2,754	-	-	77	33	5,884

1/ Exclusive of Military Personnel and Military Construction

DEPARTMENT OF DEFENSE, MILITARY
RESEARCH, DEVELOPMENT, TEST, AND EVALUATION, ARMY
INSTALLATION ANALYSIS - IN-HOUSE

Section 4 (Contd)

TOA (\$ in Thousands)										PERSONNEL (Man Years)									
Installation and Location		RDTE Funds				All		Mil. Pers.		Civil Service			Contractor			Mil. Pers.			
		Mgmt. Bureau	Other Army	Other DOD	Other	Funds 1/	Other			Subtotal	RDTE	Other	Total	Paid From Army RDTE	Paid From Other RDTE			Paid From Other Funds	In RDTE Work	Other	Total
Army Industrial Fund Installations																			
9.																			
Rodman Laboratory, Rock Island, Illinois	76	8,356	-	521	9,194	18,071	87	-	-	18,158	377	19	324	188	17	8	-	933	
	TQ	1,218	-	-	1,826	3,044	22	-	-	3,066	76	-	64	-	2	2	-	144	
	77	3,931	-	275	8,486	12,692	91	-	-	12,783	147	10	294	133	20	8	-	612	
	78	3,606	-	266	5,476	9,348	-	-	-	9,348	142	9	189	99	24	-	-	463	
	79	To be deactivated.																	
10.																			
Watervliet Arsenal, Watervliet, New York	76	6,327	7	102	6,560	12,996	43	22	-	13,061	345	-	173	-	-	4	2	524	
	TQ	1,085	-	-	572	1,657	11	-	-	1,668	55	-	20	-	-	1	-	76	
	77	2,651	-	-	4,885	7,536	45	23	-	7,604	141	-	164	-	-	4	2	311	
	78	3,007	-	-	4,885	7,892	45	22	-	7,959	158	-	164	-	-	4	2	328	
	79	3,481	-	-	4,885	8,366	45	22	-	8,433	178	-	164	-	-	4	2	348	
Subtotal Army Industrial Fund	76	247,940	5,818	18,131	100,963	372,852	7,992	1,046	-	381,890	9,161	162	4,173	189	17	734	96	14,532	
	TQ	65,910	883	4,297	20,474	91,564	2,115	282	-	93,961	2,258	32	1,004	-	2	188	25	3,509	
	77	246,285	5,608	20,613	79,757	352,263	9,989	965	-	363,217	8,774	139	4,178	134	20	880	85	14,210	
	78	253,391	4,611	16,112	82,516	356,630	9,578	966	-	367,174	8,851	166	4,164	100	24	852	86	14,243	
	79	270,623	5,470	12,638	82,186	370,917	9,668	966	-	381,551	8,993	151	4,164	1	-	858	86	14,253	

1/ Exclusive of Military Personnel and Military Construction

DEPARTMENT OF DEFENSE, MILITARY
RESEARCH, DEVELOPMENT, TEST, AND EVALUATION, ARMY
INSTALLATION ANALYSIS - IN-HOUSE

Section 4 (Contd)

TOA (\$ in Thousands)										PERSONNEL (Man Years)																
										Civil Service					Contractor					Mil. Pers.						
										Paid			From		Paid		Paid			From		In				
										Army			RDTE		Other		RDTE			From		Other		RDTE		
										RDTE			RDTE		RDTE		RDTE			RDTE		RDTE		RDTE		
										RDTE			RDTE		RDTE		RDTE			RDTE		RDTE		RDTE		
										RDTE			RDTE		RDTE		RDTE			RDTE		RDTE		RDTE		
										RDTE			RDTE		RDTE		RDTE			RDTE		RDTE		RDTE		
										RDTE			RDTE		RDTE		RDTE			RDTE		RDTE		RDTE		
										RDTE			RDTE		RDTE		RDTE			RDTE		RDTE		RDTE		
										RDTE			RDTE		RDTE		RDTE			RDTE		RDTE		RDTE		
										RDTE			RDTE		RDTE		RDTE			RDTE		RDTE		RDTE		
										RDTE			RDTE		RDTE		RDTE			RDTE		RDTE		RDTE		
										RDTE			RDTE		RDTE		RDTE			RDTE		RDTE		RDTE		
										RDTE			RDTE		RDTE		RDTE			RDTE		RDTE		RDTE		
										RDTE			RDTE		RDTE		RDTE			RDTE		RDTE		RDTE		
										RDTE			RDTE		RDTE		RDTE			RDTE		RDTE		RDTE		
										RDTE			RDTE		RDTE		RDTE			RDTE		RDTE		RDTE		
										RDTE			RDTE		RDTE		RDTE			RDTE		RDTE		RDTE		
										RDTE			RDTE		RDTE		RDTE			RDTE		RDTE		RDTE		
										RDTE			RDTE		RDTE		RDTE			RDTE		RDTE		RDTE		
										RDTE			RDTE		RDTE		RDTE			RDTE		RDTE		RDTE		
										RDTE			RDTE		RDTE		RDTE			RDTE		RDTE		RDTE		
										RDTE			RDTE		RDTE		RDTE			RDTE		RDTE		RDTE		
										RDTE			RDTE		RDTE		RDTE			RDTE		RDTE		RDTE		
										RDTE			RDTE		RDTE		RDTE			RDTE		RDTE		RDTE		
										RDTE			RDTE		RDTE		RDTE			RDTE		RDTE		RDTE		
										RDTE			RDTE		RDTE		RDTE			RDTE		RDTE		RDTE		
										RDTE			RDTE		RDTE		RDTE			RDTE		RDTE		RDTE		
										RDTE			RDTE		RDTE		RDTE			RDTE		RDTE		RDTE		
										RDTE			RDTE		RDTE		RDTE			RDTE		RDTE		RDTE		
										RDTE			RDTE		RDTE		RDTE			RDTE		RDTE		RDTE		
										RDTE			RDTE		RDTE		RDTE			RDTE		RDTE		RDTE		
										RDTE			RDTE		RDTE		RDTE			RDTE		RDTE		RDTE		
										RDTE			RDTE		RDTE		RDTE			RDTE		RDTE		RDTE		
										RDTE			RDTE		RDTE		RDTE			RDTE		RDTE		RDTE		
										RDTE			RDTE		RDTE		RDTE			RDTE		RDTE		RDTE		
										RDTE			RDTE		RDTE		RDTE			RDTE		RDTE		RDTE		
										RDTE			RDTE		RDTE		RDTE			RDTE		RDTE		RDTE		
										RDTE			RDTE		RDTE		RDTE			RDTE		RDTE		RDTE		
										RDTE			RDTE		RDTE		RDTE			RDTE		RDTE		RDTE		
										RDTE			RDTE		RDTE		RDTE			RDTE		RDTE		RDTE		
										RDTE			RDTE		RDTE		RDTE			RDTE		RDTE		RDTE		
										RDTE			RDTE		RDTE		RDTE			RDTE		RDTE		RDTE		
										RDTE			RDTE		RDTE		RDTE			RDTE		RDTE		RDTE		
										RDTE			RDTE		RDTE		RDTE			RDTE		RDTE		RDTE		
										RDTE			RDTE		RDTE		RDTE			RDTE		RDTE		RDTE		
										RDTE			RDTE		RDTE		RDTE			RDTE		RDTE		RDTE		
										RDTE			RDTE		RDTE		RDTE			RDTE		RDTE		RDTE		
										RDTE			RDTE		RDTE		RDTE			RDTE		RDTE		RDTE		
										RDTE			RDTE		RDTE		RDTE			RDTE		RDTE		RDTE		
										RDTE			RDTE		RDTE		RDTE			RDTE		RDTE		RDTE		
										RDTE			RDTE		RDTE		RDTE			RDTE		RDTE		RDTE		
										RDTE			RDTE		RDTE		RDTE			RDTE		RDTE		RDTE		
										RDTE			RDTE		RDTE		RDTE			RDTE		RDTE		RDTE		
										RDTE			RDTE		RDTE		RDTE			RDTE		RDTE		RDTE		
										RDTE			RDTE		RDTE		RDTE			RDTE		RDTE		RDTE		
										RDTE			RDTE		RDTE		RDTE			RDTE		RDTE		RDTE		
										RDTE			RDTE		RDTE		RDTE			RDTE		RDTE		RDTE		
										RDTE			RDTE		RDTE		RDTE			RDTE		RDTE		RDTE		
										RDTE			RDTE		RDTE		RDTE			RDTE		RDTE		RDTE		
										RDTE			RDTE		RDTE		RDTE			RDTE		RDTE		RDTE		
										RDTE			RDTE		RDTE		RDTE			RDTE		RDTE		RDTE		
										RDTE			RDTE		RDTE		RDTE			RDTE		RDTE		RDTE		
										RDTE			RDTE		RDTE		RDTE			RDTE		RDTE		RDTE		
										RDTE			RDTE		RDTE		RDTE			RDTE		RDTE		RDTE		
										RDTE			RDTE		RDTE		RDTE			RDTE		RDTE		RDTE		
										RDTE			RDTE		RDTE		RDTE			RDTE		RDTE		RDTE		
										RDTE			RDTE		RDTE		RDTE			RDTE		RDTE		RDTE		
										RDTE			RDTE		RDTE		RDTE			RDTE		RDTE		RDTE		
										RDTE			RDTE		RDTE		RDTE			RDTE		RDTE		RDTE		
										RDTE			RDTE		RDTE		RDTE			RDTE		RDTE		RDTE		
										RDTE			RDTE		RDTE		RDTE			RDTE		RDTE		RDTE		
										RDTE			RDTE		RDTE		RDTE			RDTE		RDTE		RDTE		
										RDTE			RDTE		RDTE		RDTE			RDTE		RDTE				

1/ Exclusive of Military Personnel and Military Construction

DEPARTMENT OF DEFENSE, MILITARY
RESEARCH, DEVELOPMENT, TEST, AND EVALUATION, ARMY
INSTALLATION ANALYSIS - IN-HOUSE

Section 4 (Contd)

TOA (\$ in Thousands)										PERSONNEL (Man Years)									
Installation and Location	FY	RDTE Funds			All		Subtotal	Mil. Pers.		Civil Service			Contractor			Mil. Pers.		Total	
		Mgmt. Bureau	Other Army	Other DOD	Funds	1/		RDTE	Other	Paid	From Army	From Other	Paid From RDTE	Paid From Other	In RDTE	Work Other			
15. 2/ Aircraft Development & Test Activity, Ft Rucker, Alabama	76	6,385	-	-	1,296	7,681	2,820	-	10,501	126	-	-	221	-	259	-	606		
	TQ	1,759	-	-	533	2,292	732	-	3,024	32	-	-	55	-	57	-	144		
	77	6,343	-	-	1,753	8,096	2,600	-	10,696	93	-	-	158	-	225	-	476		
	78	5,145	-	-	1,244	6,389	2,541	-	8,930	90	-	-	99	-	221	-	410		
	79	5,194	-	-	1,244	6,438	2,293	-	8,731	90	-	-	99	-	200	-	389		
16. Arctic Test Center, Fort Greely, Alaska	76	3,209	-	6	-	3,215	2,613	-	5,828	21	-	-	-	15	240	-	276		
	TQ	933	-	-	-	933	675	-	1,608	5	-	-	-	4	60	-	69		
	77	3,351	-	-	-	3,351	3,054	-	6,405	22	-	-	-	15	262	-	299		
	78	3,522	-	-	-	3,522	3,024	-	6,546	22	-	-	-	15	262	-	299		
	79	3,696	-	-	-	3,696	3,024	-	6,720	22	-	-	-	15	262	-	299		
17. Armament Command Headquarters, Rock Island, Illinois	76	5,195	-	-	906	6,101	207	-	6,308	185	-	37	-	-	19	-	241		
	TQ	1,550	-	-	230	1,780	56	-	1,836	46	-	9	-	-	5	-	60		
	77	5,165	-	-	-	5,165	250	-	5,415	187	-	-	-	-	22	-	209		
	78	5,366	-	-	-	5,366	247	-	5,613	187	-	-	-	-	22	-	209		
	79	5,676	-	-	-	5,676	247	-	5,923	187	-	-	-	-	22	-	209		
18. Armor and Engineer Board, Ft Knox, Kentucky	76	2,006	-	-	21	2,027	1,971	-	3,998	85	-	-	-	-	181	-	266		
	TQ	540	-	-	366	906	653	-	1,559	21	-	-	-	-	44	-	65		
	77	3,117	-	-	275	3,392	2,055	-	5,447	85	-	-	-	-	181	-	266		
	78	3,371	-	-	250	3,621	2,035	-	5,656	85	-	-	-	-	181	-	266		
	79	3,067	-	-	250	3,317	2,035	-	5,352	85	-	-	-	-	181	-	266		

1/ Exclusive of Military Personnel and Military Construction
2/ DARCOM activity; developmental testing only. See item number 29, Aviation Test Board, TRADOC.

DEPARTMENT OF DEFENSE, MILITARY
RESEARCH, DEVELOPMENT, TEST, AND EVALUATION, ARMY
INSTALLATION ANALYSIS - IN-HOUSE

Section 4 (Contd)

		TOA (\$ in Thousands)				PERSONNEL (Man Years)									
Installation and Location	FY	RDTE Funds			All		Civil Service			Contractor			Mil. Pers.		
		Ngmt. Bureau	Other Army	Other DOD	Funds 1/	Subtotal	Paid	From RDTE	Paid From Other	Paid From RDTE	Paid From Other	In RDTE	Work	Other	Total
Army Materiel Command, Head- quarters, Project Managers	76 TQ 77 78 79	392 100 400 400 400	- - - - -	- - - - -	- - - - -	392 100 400 400 400	- - - - -	- - - - -	- - - - -	- - - - -	- - - - -	- - - - -	- - - - -	- - - - -	- - - - -
Army Materiel Development & Readiness Com- mand, Headquar- ters, Alexan- dria, Virginia	76 TQ 77 78 79	8,285 2,096 5,585 5,587 5,287	- - - - -	- - - - -	- - - - -	8,285 2,096 5,585 5,587 5,287	294 75 96 91 85	- - - - -	- - - - -	- - - - -	- - - - -	31 7 38 38 38	- - - - -	- - - - -	325 82 134 129 123
Army Research Office, Re- search Triangle Park, North Carolina	76 TQ 77 78 79	2,305 725 2,538 2,558 2,558	- - - - -	- - - - -	- - - - -	2,305 725 2,538 2,558 2,558	85 23 85 92 92	- - - - -	- - - - -	- - - - -	- - - - -	15 3 12 12 12	- - - - -	- - - - -	100 26 97 104 104
Army Security Agency Analy- ses Applica- tion Facility, Warrenton, Virginia	76 TQ 77 78 79	110 29 148 148 148	- - - - -	- - - - -	- - - - -	110 29 148 148 148	19 6 23 23 23	- - - - -	- - - - -	- - - - -	- - - - -	- - - - -	- - - - -	- - - - -	19 6 25 25 25

Civilian and military spaces are included
in the activities where Project Managers
are physically located.

1/ Exclusive of Military Personnel and Military Construction

DEPARTMENT OF DEFENSE, MILITARY
RESEARCH, DEVELOPMENT, TEST, AND EVALUATION, ARMY
INSTALLATION ANALYSIS - IN-HOUSE

Section 4 (Contd)

Installation and Location	FY	TOA (\$ in Thousands)				PERSONNEL (Man Years)									
		RDTE Funds		All		Civil Service		Contractor		Mil. Pers.					
		Mgmt.	Other	Funds I/	Subtotal	Mil. Pers.	Total	Paid	From	Paid	From	In	RDTE	Work	Other
		Bureau	Army	DOD		RDTE Other		RDTE	RDTE	RDTE	RDTE	RDTE		RDTE	Total
23. Army Non-Industrial Fund Installations															
Army Security	76	1,889	-	352	-	2,241	294	-	2,535	53	25	-	-	27	-
Agency, Arlington Hall Station, Virginia	77	609	-	117	-	726	68	-	794	14	6	-	-	6	-
	78	2,181	-	504	-	2,685	307	-	2,992	55	26	-	-	27	-
	79	2,118	-	461	-	2,579	304	-	2,883	56	26	-	-	27	-
	79	2,220	-	461	-	2,681	304	-	2,985	56	26	-	-	27	-
24. Army Security	76	1,560	-	-	-	1,560	1,057	-	2,617	40	-	-	-	97	-
Agency, Test & Evaluation	77	477	-	-	-	477	259	-	736	11	-	-	-	17	-
Center, FtHua-chuca, Arizona	78	1,920	-	-	-	1,920	783	-	2,703	46	-	-	-	66	-
	79	1,751	-	-	-	1,751	776	-	2,527	47	-	-	-	66	-
	79	1,890	-	-	-	1,890	776	-	2,666	47	-	-	-	66	-
25. Army Training	76	1,218	-	-	-	1,218	185	-	1,403	18	-	-	-	17	-
Devices Agency, Orlando, Florida	77	430	-	-	-	430	45	-	475	6	-	-	-	4	-
	78	1,239	-	-	-	1,239	193	-	1,432	18	-	-	-	17	-
	79	1,306	-	-	-	1,306	191	-	1,497	22	-	-	-	17	-
	79	1,323	-	-	-	1,323	191	-	1,514	22	-	-	-	17	-
26. Atmospheric Sciences Lab-oratory, White Sands Missile Range, Las Cruces, New Mexico	76	7,789	66	320	103	8,278	5,259	-	13,537	226	3	1	45	483	-
	77	2,674	-	120	-	2,794	1,317	-	4,111	52	1	-	11	117	-
	78	7,483	-	210	-	7,693	5,495	-	13,188	199	3	-	45	484	-
	79	9,323	-	250	-	9,573	5,497	-	15,070	199	3	-	45	489	-
	79	9,790	-	210	-	10,000	5,497	-	15,497	199	3	-	45	489	-

I/ Exclusive of Military Personnel and Military Construction

DEPARTMENT OF DEFENSE, MILITARY
RESEARCH, DEVELOPMENT, TEST, AND EVALUATION, ARMY
INSTALLATION ANALYSIS - IN-HOUSE

Section 4 (Contd)

TOA (\$ in Thousands)										PERSONNEL (Man Years)									
Installation and Location		RDTE Funds			All Other		Civil Service			Contractor			Mil. Pers.						
		FY	Mgmt. Bureau	Other Army	DOD	Funds 1/	Subtotal	Mil. Pers.		Paid	From Army	From Other	RDTE	Funds	Work	Other	Total		
								RDTE	Other										
Army Non-Industrial Fund Installations																			
27.																			
Aviation Engineering Flight	76	2,868	-	-	-	-	2,868	621	-	3,489	138	-	-	-	-	57	-	195	
Activity, Edwards Air Force Base, California	77	3,213	-	-	-	-	3,213	851	-	4,064	143	-	-	-	-	70	-	213	
28.																			
Aviation Systems Command Headquarters, St Louis, Missouri	76	17,837	94	-	-	-	17,931	436	-	18,367	375	-	-	-	-	40	-	415	
29.																			
Aviation Test	76	5	-	-	-	-	5	-	-	5	-	-	-	-	-	-	-	-	
Beard, Fort Rucker, Alabama	77	1,299	-	-	-	-	1,299	590	-	1,889	36	-	-	-	-	13	-	18	
30.																			
Ballistic Missile Defense Advanced Technology Center, Huntsville, Alabama	76	3,445	-	-	-	-	3,445	87	-	3,532	111	-	-	-	-	8	-	119	
	77	3,851	-	-	-	-	3,851	91	-	3,942	106	-	-	-	-	2	-	30	
	78	3,851	-	-	-	-	3,851	90	-	3,941	98	-	-	-	-	8	-	114	
	79	4,183	-	-	-	-	4,183	90	-	4,273	98	-	-	-	-	8	-	106	

1/ Exclusive of Military Personnel and Military Construction

2/ TRADOC activity; formerly part of item number 15, Aircraft Development & Test Activity, DARCOM. Operational testing only.

Section 4 (Contd)

1.1/ Exclusive of Military Personnel and Military Construction

Section 4 (Contd)

DEPARTMENT OF DEFENSE, MILITARY
RESEARCH, DEVELOPMENT, TEST, AND EVALUATION, ARMY
INSTALLATION ANALYSIS - IN-HOUSE

Installation and Location	FY	TOA (\$ in Thousands)				PERSONNEL (Man Years)									
		RDTE Funds		All		Civil Service		Contractor		Mil. Pers.					
		Mgmt. Bureau	Other Army	Other DOD	Subtotal	Total	Paid From RDTE	Paid From Other RDTE	Paid From Other RDTE	In RDTE	Other Work	Other Funds	Other RDTE	Other Work	Total
35. Construction	76	5,733	2,706	502	-	8,941	33	-	-	10	-	-	-	3	200
EngineeringRes-TQ	77	1,908	403	43	-	2,354	11	-	-	-	-	-	-	1	50
ResearchLaborato-	77	6,599	3,084	369	-	10,052	34	-	-	5	-	-	-	3	198
ries, Urbana,	78	6,929	3,530	418	-	10,877	34	-	-	7	-	-	-	3	192
Illinois	79	7,057	4,400	400	-	11,857	34	-	-	7	-	-	-	3	192
36. Electronics	76	82,549	3,589	2,226	9,194	97,558	2,004	120	25	150	23	-	-	184	11 2,687
Command Head-	TQ	25,133	1,732	126	3,926	30,917	529	45	6	20	6	-	-	47	4 658
quarters, Ft	77	86,492	4,218	293	8,733	99,736	2,146	125	24	87	21	-	-	189	11 2,597
Monmouth, New	78	91,569	4,384	287	9,944	106,184	2,158	124	25	84	21	-	-	192	11 2,589
Jersey	79	96,444	4,549	325	8,955	110,273	2,147	124	25	84	18	-	-	191	11 2,537
37. Electronics	76	6,133	1,452	1,794	18	9,397	2,592	501	32	33	-	-	-	238	46 488
ProvingGround, TQ	77	2,561	360	265	-	3,186	675	124	8	8	-	-	-	60	11 121
Ft Huachuca,	77	5,055	952	1,067	-	7,074	3,235	602	33	34	-	-	-	265	53 518
Arizona	78	5,489	937	1,131	-	7,557	3,260	596	33	34	-	-	-	270	53 523
	79	5,898	1,013	1,189	-	8,100	3,260	596	33	34	-	-	-	270	53 523
38. EngineerTopo-	76	3,350	1,659	2,137	734	7,880	174	-	32	125	-	-	-	16	- 296
graphic Labo-	TQ	976	343	533	241	2,093	45	-	8	22	-	-	-	4	- 74
ratories, Ft	77	3,724	1,247	2,115	470	7,556	182	-	32	109	-	-	-	16	- 297
Belvoir,	78	3,746	1,008	2,200	420	7,374	180	-	32	105	-	-	-	16	- 293
Virginia	79	3,896	1,078	2,200	420	7,594	180	-	32	105	-	-	-	16	- 293

1/ Exclusive of Military Personnel and Military Construction

Section 4 (Contd)

DEPARTMENT OF DEFENSE, MILITARY
RESEARCH, DEVELOPMENT, TEST, AND EVALUATION, ARMY
INSTALLATION ANALYSIS - IN-HOUSE

Installation and Location Army Non-In- dustrial Fund Installations		TOA (\$ in Thousands)										PERSONNEL (Man Years)										
		RDTE Funds					All					Civil Service					Contractor					
		Mgmt.		Other		Subtotal	Mil. Pers.		Total	Paid		Paid		Paid		Paid		In	RDTE	Work	Other	Total
		Bureau	Army	DOD	Other		RDTE	Other		From	RDTE	From	RDTE	From	RDTE	From	RDTE						Funds
FY																						
39.	Engineer/Water-ways/Experimen- tal Center, Vicksburg, Mississippi	76 TQ 77 78 79	4,203 1,024 3,286 3,314 4,550	3,228 1,076 4,128 4,110 3,645	4,594 1,341 5,591 5,935 6,095	498 195 713 763 811	12,523 3,636 13,718 14,122 15,101	185 45 193 191 191	- - - - -	12,708 3,681 13,911 14,313 15,292	424 108 400 405 456	303 74 330 316 272	31 8 38 35 33	- - - - -	- - - - -	- - - - -	17 4 17 17 17	- - - - -	- - - - -	- - - - -	775 194 785 773 778	
40.	Facilities Engineer Sup- port Agency, Ft Belvoir, Virginia	76 TQ 77 78 79	336 80 300 316 425	371 175 380 365 375	- - - - -	155 20 345 219 300	862 275 1,025 900 1,100	22 - 11 11 11	- - - - -	884 275 1,036 911 1,111	7 2 8 7 7	- - - - -	- - - - -	- - - - -	- - - - -	- - - - -	2 - 1 1 1	- - - - -	- - - - -	- - - - -	9 2 9 8 8	
41.	Field Artil- lery Board, Ft Sill, Oklahoma	76 TQ 77 78 79	770 232 1,090 1,107 1,147	- - - - -	- - - - -	7 - - - -	777 232 1,090 1,107 1,147	1,503 428 1,726 1,709 1,709	- - - - -	2,280 660 2,816 2,816 2,856	33 9 35 35 35	- - - - -	- - - - -	- - - - -	- - - - -	- - - - -	138 38 152 152 152	- - - - -	- - - - -	- - - - -	171 47 187 187 187	
42.	Human Resource Units, Various Locations	76 TQ 77 78 79	2,146 646 2,931 3,090 3,207	- - - - -	- - - - -	- - - - -	2,146 646 2,931 3,090 3,207	218 45 238 303 303	- - - - -	2,364 691 3,169 3,393 3,510	73 23 104 104 104	- - - - -	- - - - -	- - - - -	- - - - -	- - - - -	20 4 21 27 27	- - - - -	- - - - -	- - - - -	93 27 125 131 131	

1/ Exclusive of Military Personnel and Military Construction

DEPARTMENT OF DEFENSE, MILITARY
RESEARCH, DEVELOPMENT, TEST, AND EVALUATION, ARMY
INSTALLATION ANALYSIS - IN-HOUSE

Section 4 (Contd)

Installation and Location		TOA (\$ in Thousands)						PERSONNEL (Man Years)									
								Civil Service			Contractor			Mil. Pers.			
								Paid			Paid			Paid			
		FY	Mgmt. Bureau	RDTE Army	Other DOD	Other Funds I/	Subtotal	Mil. Pers. RDTE	Other	Total	Paid From Army RDTE	Paid From Other RDTE	Paid From Other RDTE	In RDTE Work	Other	Total	
43. Infantry Board, Ft Benning, Georgia		76	1,165	-	-	-	1,165	1,121	-	2,286	52	-	-	-	103	-	155
		TQ	287	-	-	-	287	304	-	591	14	-	-	-	27	-	41
		77	1,212	-	-	42	1,254	1,237	-	2,491	56	-	-	-	109	-	165
		78	1,399	-	-	-	1,399	1,225	-	2,624	56	-	-	-	109	-	165
		79	1,419	-	-	-	1,419	1,225	-	2,644	56	-	-	-	109	-	165
44. Institute of Surgical Res- earch, Ft Sam Houston, Texas		76	1,635	-	-	-	1,635	1,514	-	3,149	74	-	-	-	139	-	213
		TQ	407	-	-	-	407	383	-	790	19	-	-	-	34	-	53
		77	1,750	-	-	-	1,750	1,544	-	3,294	77	-	-	-	136	-	213
		78	1,885	-	-	-	1,885	1,529	-	3,414	77	-	-	-	136	-	213
		79	1,962	-	-	-	1,962	1,529	-	3,491	77	-	-	-	136	-	213
45. Jefferson Pro- ving Ground, Madison, Indiana		76	391	-	-	-	391	-	44	435	-	-	-	-	-	4	4
		TQ	140	-	-	-	140	-	11	151	-	-	-	-	-	1	1
		77	560	-	-	-	560	-	45	605	-	-	-	-	-	4	4
		78	618	-	-	-	618	-	45	663	-	-	-	-	-	4	4
		79	650	-	-	-	650	-	45	695	-	-	-	-	-	4	4
46. Kwajalein Missile Range, Marshall Islands		76	52,480	6,760	4,960	120	64,320	327	-	64,647	136	-	-	2,719	345	30	3,230
		TQ	14,595	1,250	785	-	16,630	90	-	16,720	33	-	-	700	79	8	820
		77	53,655	6,600	3,280	-	63,535	363	-	63,898	133	-	-	2,779	331	32	3,275
		78	55,771	6,620	3,980	-	66,371	360	-	66,731	133	-	-	2,765	347	32	3,277
		79	55,825	6,710	3,630	-	66,165	360	-	66,525	133	-	-	2,766	346	32	3,277

1/ Exclusive of Military Personnel and Military Construction

Section 4 (Contd)

DEPARTMENT OF DEFENSE, MILITARY
RESEARCH, DEVELOPMENT, TEST, AND EVALUATION, ARMY
INSTALLATION ANALYSIS - IN-HOUSE

Installation and Location	FY	TOA (\$ in Thousands)										PERSONNEL (Man Years)												
		RDTE Funds					All					Civil Service					Contractor							
		Mgmt.					Other					Paid					Paid							
		Bureau	Other	Army	DOD	Funds	1/	Subtotal	Mil. Pers.		Total	From Army	From RDTE	From Other	From RDTE	From Other	From Army	From RDTE	From Other	From RDTE	Total			
Installations																								
47.																								
Letterman Army	76	6,159	-	-	-	68	-	6,227	2,319	-	8,546	164	-	-	-	-	-	-	-	213	-			
Institute of	TQ	1,525	-	-	-	15	-	1,540	732	-	2,272	40	-	-	-	-	-	-	-	65	-			
Research, San	77	6,200	-	-	-	60	-	6,260	2,952	-	9,212	226	-	-	-	-	-	-	-	240	-			
Francisco,	78	6,720	-	-	-	65	-	6,785	2,923	-	9,708	223	-	-	-	-	-	-	-	240	-			
California	79	6,520	-	-	-	65	-	6,585	2,923	-	9,508	223	-	-	-	-	-	-	-	240	-			
48.																								
Liaison Field	76	161	-	-	-	-	-	161	76	-	237	6	-	-	-	-	-	-	-	7	-			
Offices,	TQ	37	-	-	-	-	-	37	11	-	48	2	-	-	-	-	-	-	-	1	-			
Various	77	151	-	-	-	-	-	151	45	-	196	6	-	-	-	-	-	-	-	4	-			
Locations	78	154	-	-	-	-	-	154	45	-	199	6	-	-	-	-	-	-	-	4	-			
	79	155	-	-	-	-	-	155	45	-	200	6	-	-	-	-	-	-	-	4	-			
49.																								
Medical Bio-	76	2,599	-	-	-	237	-	2,836	370	-	3,206	71	-	-	-	-	-	-	-	34	-			
Engineering	TQ	747	-	-	-	60	-	807	79	-	886	20	-	-	-	-	-	-	-	7	-			
R&DLaboratory,	77	2,614	-	-	-	218	-	2,832	307	-	3,139	81	-	-	-	-	-	-	-	27	-			
Ft Detrick,	78	2,583	-	-	-	200	-	2,783	304	-	3,087	81	-	-	-	-	-	-	-	27	-			
Maryland	79	2,551	-	-	-	200	-	2,751	304	-	3,055	81	-	-	-	-	-	-	-	27	-			
50.																								
Medical R&D	76	1,831	-	-	-	-	-	1,831	610	-	2,441	99	-	-	-	-	-	-	-	56	-			
Command,	TQ	738	-	-	-	-	-	738	169	-	907	27	-	-	-	-	-	-	-	15	-			
Washington, DC	77	1,834	-	-	-	-	-	1,834	670	-	2,504	84	-	-	-	-	-	-	-	59	-			
	78	1,756	-	-	-	-	-	1,756	663	-	2,419	63	-	-	-	-	-	-	-	59	-			
	79	1,844	-	-	-	-	-	1,844	663	-	2,507	63	-	-	-	-	-	-	-	59	-			

1/ Exclusive of Military Personnel and Military Construction

Section 4 (Contd)

DEPARTMENT OF DEFENSE, MILITARY
RESEARCH, DEVELOPMENT, TEST, AND EVALUATION, ARMY
INSTALLATION ANALYSIS - IN-HOUSE

Installation and Location	FY	TOA (\$ in Thousands)			PERSONNEL (Man Years)										
					RDTE Funds			Civil Service			Contractor			Mil. Pers.	
					Mgmt.						Paid				
		Bureau	Other	All	Bureau	Other	Other	Paid	From	Other	From	Other	From	In	Total
Army Non-Industrial Fund Installations			Army	Funds 1/		DOD	Subtotal	RDTE	RDTE	Other	RDTE	Funds	Work	Other	
51.															
Medical Res- earch Institute	76	7,054	-	153	7,207	2,766	-	9,973	185	-	-	-	254	-	439
of Infectious	77	7,358	-	38	7,396	889	-	2,684	50	-	-	-	79	-	129
Diseases, Ft	78	7,443	-	155	7,598	3,576	-	11,089	197	-	-	-	315	-	512
Detrick,	79	7,569	-	175	7,744	3,541	-	11,159	197	-	-	-	315	-	512
Maryland				175	7,744	3,541	-	11,285	197	-	-	-	315	-	512
52.															
Mobility Equip- ment&D Center,	76	17,136	1,007	422	10,048	28,613	708	-	906	11	421	-	65	-	1,403
Ft Belvoir,	77	4,815	200	100	2,852	7,967	180	-	227	5	106	-	16	-	354
Virginia	78	18,423	1,600	500	10,226	30,749	1,113	-	900	14	425	-	98	-	1,437
	79	19,814	1,500	450	10,853	32,617	1,495	-	900	13	424	-	133	-	1,470
		20,934	1,600	600	11,524	34,658	1,439	-	900	13	425	-	128	-	1,466
53.															
Natick Labora- tories, Natick,	76	15,000	-	94	1,208	16,302	730	-	518	-	-	-	67	-	585
Massachusetts	77	4,559	-	2	211	4,772	191	-	129	-	-	-	17	-	146
	78	17,448	-	-	86	17,534	954	-	531	-	-	-	84	-	615
	79	17,832	-	86	17,918	1,023	-	18,941	531	-	-	-	91	-	622
		18,295	-	86	18,381	989	-	19,370	531	-	-	-	88	-	619
54.															
Night Vision Laboratory,	76	15,873	1,650	487	2,138	20,148	305	-	404	19	-	30	28	-	481
Ft Belvoir,	77	5,091	91	101	127	5,410	79	-	101	5	-	7	7	-	120
Virginia	78	18,201	1,610	500	252	20,620	318	-	405	20	-	30	28	-	483
	79	18,411	1,500	500	594	20,795	270	-	405	20	-	40	24	-	489
				500	750	21,161	214	-	405	20	-	40	19	-	484

1/ Exclusive of Military Personnel and Military Construction

DEPARTMENT OF DEFENSE, MILITARY
RESEARCH, DEVELOPMENT, TEST, AND EVALUATION, ARMY
INSTALLATION ANALYSIS - IN-HOUSE

Section 4 (Contd)

Installation and Location		TQA (\$ in Thousands)					PERSONNEL (Man Years)										
		RDTE Funds			All		Total	Paid		Paid		Paid		Paid		Total	
		Mgmt.	Other	Other	DOD	Funds 1/		Subtotal	Mil. Pers.	RDTE	Other	RDTE	Other	RDTE	Other		
																	FY	Bureau	Army
55.	Office, Chief of Engineers, Washington, DC	76	462	226	-	-	688	-	-	688	11	-	-	-	-	-	11
		TQ	151	144	-	-	295	-	-	295	3	-	-	-	-	-	3
		77	490	347	-	-	837	-	-	837	12	-	-	-	-	-	12
		78	486	226	-	-	712	-	-	712	11	-	-	-	-	-	11
		79	480	222	-	-	702	-	-	702	11	-	-	-	-	-	11
56.	Research Institute for the Behavioral & Social Sciences, Arlington, Virginia	76	6,506	5	-	8	6,519	174	-	6,693	200	-	-	-	16	-	216
		TQ	2,057	-	-	-	2,057	56	-	2,113	64	-	-	-	5	-	69
		77	8,569	30	-	64	8,663	170	-	8,833	243	-	-	-	15	-	258
		78	9,075	-	-	-	9,075	236	-	9,311	243	-	-	-	21	-	264
		79	9,839	-	-	-	9,839	236	-	10,075	243	-	-	-	21	-	264
57.	Research Institute of Environmental Medicine, Natick, Massachusetts	76	3,494	-	-	46	3,540	838	-	4,378	80	-	-	-	77	-	157
		TQ	870	-	-	10	880	236	-	1,116	20	-	-	-	21	-	41
		77	3,521	-	-	25	3,546	931	-	4,477	79	-	-	-	82	-	161
		78	3,693	-	-	25	3,718	922	-	4,640	79	-	-	-	82	-	161
		79	3,749	-	-	25	3,774	922	-	4,696	79	-	-	-	82	-	161
58.	Satellite Communications Agency, Ft Monmouth, New Jersey	76	3,133	-	-	-	3,133	501	142	3,776	90	-	91	-	46	13	240
		TQ	813	-	-	-	813	124	34	971	24	-	23	-	11	3	61
		77	3,200	-	-	-	3,200	500	148	3,848	90	-	112	-	44	13	259
		78	3,260	-	-	-	3,260	495	146	3,901	90	-	112	-	44	13	259
		79	3,410	-	-	-	3,410	495	146	4,051	90	-	112	-	44	13	259

1/ Exclusive of Military Personnel and Military Construction

Section 4 (Contd)

1/ Exclusive of Military Personnel and Military Construction

DEPARTMENT OF DEFENSE, MILITARY
RESEARCH, DEVELOPMENT, TEST, AND EVALUATION, ARMY
INSTALLATION ANALYSIS - IN-HOUSE

Section 4 (Contd)

Installation and Location	FY	TOA (\$ in Thousands)				PERSONNEL (Man Years)									
		RDTE Funds		All		Civil Service		Contractor		Mil. Pers.					
		Mgmt. Bureau	Other Army	Other DOD	Subtotal	RDTE	Mil. Pers.	Paid From Army RDTE	Paid From Other RDTE	Paid From Other RDTE	In RDTE	Work	Other	Total	
Army Non-Industrial Installations															
63. Test & Evaluation Command Headquarters, Aberdeen, Maryland	76	10,115	-	-	10,115	719	-	323	-	-	66	-	-	389	
	TQ	3,270	-	-	3,270	180	-	81	-	-	16	-	-	97	
	77	11,086	-	-	11,086	749	-	323	-	-	66	-	-	389	
	78	12,024	-	-	12,024	742	-	323	-	-	66	-	-	389	
	79	12,309	-	-	12,309	742	-	323	-	-	66	-	-	389	
64. 2/ TRADOC Combined Arms Test Activity (TCATA), Ft Hood, Texas	76	999	-	-	9,845	-	4,464	-	177	-	-	-	410	587	
	TQ	231	-	-	3,427	-	1,148	-	42	-	-	-	102	144	
	77	1,539	-	-	7,283	-	3,417	-	126	-	-	-	301	427	
	78	635	-	-	8,254	-	3,384	-	126	-	-	-	301	427	
	79	806	-	-	8,254	-	3,384	-	126	-	-	-	301	427	
65. 3/ TRADOC Combined Arms Test Activity (TCATC) Support Office, Ft Hood, Texas	76	260	-	-	260	-	11	7	-	-	-	-	1	8	
	TQ	65	-	-	65	-	-	2	-	-	-	-	-	2	
	77	260	-	-	260	-	23	7	-	-	-	-	2	9	
	78	260	-	-	260	-	22	7	-	-	-	-	2	9	
	79	260	-	-	260	-	22	7	-	-	-	-	2	9	

- 1/ Exclusive of Military Personnel and Military Construction
2/ TRADOC Activity
3/ DARCOM Activity

DEPARTMENT OF DEFENSE, MILITARY
RESEARCH, DEVELOPMENT, TEST, AND EVALUATION, ARMY
INSTALLATION ANALYSIS - IN-HOUSE

Section 4 (Contd)

Installation and Location	FY	TOA (\$ in Thousands)										PERSONNEL (Man Years)									
		RDTE Funds					All					Civil Service					Contractor				
		Mgmt.			Other		Funds 1/		Subtotal			Paid		From			Paid		From		
		Bureau	Army	DOD	Other							RDTE	Other	RDTE	Other	RDTE	RDTE	Other	RDTE	Other	Total
66. TRADOC Security76																					
Board, Ft	TQ	TRADOC R&D effort to be initiated in FY 1978																			
Huachuca,	77																				
Arizona	78	731	-	-	-	-	-	731	1,225	-	-	-	-	-	-	-	-	-	-	-	109
	79	731	-	-	-	-	-	731	1,225	-	-	-	-	-	-	-	-	-	-	-	109
67. Tri-Service																					
Tactical Com-	76	3,549	450	1,203	-	-	-	5,202	501	142		90	-	91	-	-	-	-	46	13	240
munications	TQ	888	300	222	-	-	-	1,410	124	34		24	-	23	-	-	-	-	11	3	61
Systems (TRI-	77	3,733	1,951	668	-	-	-	6,352	500	148		95	-	112	-	-	-	-	44	13	264
TAC), Ft	78	3,819	1,085	725	-	-	-	5,629	495	146		95	-	112	-	-	-	-	44	13	264
Monmouth, New	79	3,819	1,085	725	-	-	-	5,629	495	146		95	-	112	-	-	-	-	44	13	264
Jersey																					
68. Tropic Test																					
Center, Panama,	76	2,113	-	-	-	-	-	2,113	871	-		69	-	-	-	-	-	-	80	-	149
Canal Zone	TQ	584	-	-	-	-	-	584	225	-		17	-	-	-	-	-	-	20	-	37
	77	2,137	-	-	-	-	-	2,137	931	-		62	-	-	-	-	-	-	82	-	144
	78	2,255	-	-	-	-	-	2,255	922	-		62	-	-	-	-	-	-	82	-	144
	79	2,255	-	-	-	-	-	2,255	922	-		62	-	-	-	-	-	-	82	-	144

1/ Exclusive of Military Personnel and Military Construction

DEPARTMENT OF DEFENSE, MILITARY
RESEARCH, DEVELOPMENT, TEST, AND EVALUATION, ARMY
INSTALLATION ANALYSIS - IN-HOUSE

Section 4 (Contd)

TOA (\$ in Thousands)										PERSONNEL (Man Years)									
Installation and Location		RDTE Funds				All Other Funds 1/		Subtotal		Mil. Pers.		Civil Service			Contractor			Mil. Pers.	
		Mgmt. Bureau	Other Army	Other DOD	Other	Funds	1/	RDTE	Other	Paid From Army	Paid From Other	Paid From RDTE	Paid From Other	Paid From RDTE	In Work	In Other	Total		
FY	Army Non-Industrial Fund Installations																		
69.																			
76	Walter Reed	15,933	-	-	-	40	15,973	5,695	-	21,668	467	-	-	-	-	523	-	990	
TQ	R&D Activities,	3,962	-	-	-	20	3,982	1,474	-	5,456	132	-	-	-	-	131	-	263	
77	Washington,	15,900	-	-	-	240	16,140	5,971	-	22,111	500	-	-	-	-	526	-	1,026	
78	DC	16,199	-	-	-	250	16,449	5,913	-	22,362	504	-	-	-	-	526	-	1,030	
79		16,476	-	-	-	250	16,726	5,913	-	22,639	504	-	-	-	-	526	-	1,030	
70.																			
76	White Sands	62,853	9,542	4,053	-	5,600	82,048	10,137	11	92,196	2,874	-	21	799	141	931	1	4,767	
TQ	Missile Range,	19,894	3,643	1,667	-	852	26,056	2,622	-	28,678	618	-	5	202	36	233	-	1,169	
77	Las Cruces,	78,640	9,734	4,372	-	7,608	100,354	10,853	11	111,218	2,753	-	21	819	145	956	1	4,695	
78	New Mexico	86,890	12,689	3,279	-	6,569	109,427	10,747	11	120,186	2,753	-	21	870	153	956	1	4,754	
79		88,998	22,500	3,500	-	7,000	121,998	10,747	11	132,745	2,753	-	21	854	151	956	1	4,736	
71.																			
76	Yuma Proving	17,961	-	1,681	-	2,792	22,434	3,321	544	26,299	845	-	-	-	-	305	50	1,200	
TQ	Ground, Yuma,	4,723	-	411	-	479	5,613	900	169	6,682	212	-	-	-	-	76	15	303	
77	Arizona	19,828	-	914	-	3,174	23,916	3,939	692	28,547	850	-	-	-	-	347	61	1,258	
78		21,364	-	747	-	3,395	25,506	3,901	686	30,093	850	-	-	-	-	347	61	1,258	
79		22,022	-	772	-	4,374	27,168	3,901	686	31,755	850	-	-	-	-	347	61	1,258	

1/ Exclusive of Military Personnel and Military Construction

DEPARTMENT OF DEFENSE, MILITARY
RESEARCH, DEVELOPMENT, TEST, AND EVALUATION, ARMY
INSTALLATION ANALYSIS - IN-HOUSE

Section 4 (Contd)

Installation and Location Army Non-Industrial Fund Installations	TOA (\$ in Thousands)										PERSONNEL (Man Years)									
	RDTE Funds					All					Civil Service					Contractor				
	Mgmt.		Other		Subtotal	Mil. Pers.		Paid		Paid		Paid		Paid		In				
	FY	Bureau	Army	DOD		Funds 1/	RDTE	Other	RDTE	Other	RDTE	Other	RDTE	Other	RDTE	Funds	Work	Other	Total	
Subtotal, Army	76	463,064	35,774	25,244	59,090	583,172	61,678	6,001	650,851	14,354	796	1,277	3,837	501	5,668	551	26,984			
Non-Industrial	TQ	141,522	10,542	6,013	16,177	174,254	16,568	1,576	192,398	3,594	167	314	981	119	1,433	140	6,748			
Fund Instal-	77	512,468	38,417	21,423	58,749	631,057	68,408	5,541	705,006	14,294	733	1,435	3,852	491	5,954	488	27,247			
lations	78	543,507	40,808	21,821	61,242	667,378	69,776	5,486	742,640	14,273	726	1,442	3,840	515	6,131	488	27,415			
	79	556,682	51,638	21,427	62,944	692,691	69,169	5,486	767,346	14,253	680	1,446	3,822	512	6,083	488	27,284			
TOTAL, IN-	76	711,004	41,592	43,375	160,053	956,024	69,670	7,047	1,032,741	23,515	958	5,450	4,026	518	6,402	647	41,516			
HOUSE	TQ	207,432	11,425	10,310	36,651	265,818	18,683	1,858	286,359	5,852	199	1,318	981	121	1,621	165	10,257			
	77	758,753	44,025	42,036	138,506	983,320	78,397	6,506	1,068,223	23,068	872	5,613	3,986	511	6,834	573	41,457			
	78	796,898	45,419	37,933	143,758	1,024,008	79,354	6,452	1,109,814	23,124	892	5,606	3,940	539	6,983	574	41,658			
	79	827,305	57,108	34,065	145,130	1,063,608	78,837	6,452	1,148,897	23,246	831	5,610	3,823	512	6,941	574	41,537			

1/ Exclusive of Military Personnel and Military Construction

DEPARTMENT OF DEFENSE, MILITARY
RESEARCH, DEVELOPMENT, TEST, AND EVALUATION, ARMY
ANALYSIS OF REIMBURSABLE PROGRAM
(\$ in Thousands)

Section 5

	FY 1976 Actual	FY 1977 Estimate	FY 1978 Estimate
<u>Customer</u>			
Department of the Army	\$185,125	\$177,900	\$196,000
Other Department of Defense Components			
Department of the Navy	8,521	9,500	9,600
Department of the Air Force	22,478	20,000	18,000
US Marine Corps	2,285	4,300	3,700
Office, Secretary of Defense	2,300	3,200	3,200
Advanced Research Projects Agency	4,215	11,700	8,000
Defense Communications Agency	1,156	1,500	2,500
Defense Mapping Agency	5,769	5,500	5,500
Defense Nuclear Agency	12,003	12,500	13,500
National Security Agency	17,113	12,000	16,000
Other Defense Components	89	800	1,000
Subtotal	75,929	81,000	81,000
Activities Outside Department of Defense			
Consumer Product Safety Commission	400	400	400
Department of Transportation	582	700	700
Energy Research and Development Administration	2,001	2,800	3,100
Environmental Protection Agency	754	1,700	1,700
National Aeronautical and Space Administration	442	500	1,700
US Coast Guard	372	400	400
Department of Commerce	668	300	300
Trust Fund	13,326	9,897	10,000
Other	1,326	1,803	1,900
Nonfederal	1,105	2,500	2,800
Subtotal	20,976	21,100	23,000
TOTAL	\$282,030	\$280,000	\$300,000

Section 5 (Contd)

ANALYSIS OF REIMBURSABLE PROGRAM

DESCRIPTION OF REIMBURSABLE WORK

A large portion of the RDTE reimbursable program is for intra-Army work or services under the automatic reimbursement procedure. Orders are also received for Research, Development, Test, and Evaluation efforts from other bureaus or agencies of the Government on a reimbursable basis, such as:

- a. Navy - Night Sights for Surveillance; Safer Flame Agents; Aircraft Survivability; Remotely Piloted Vehicle Engines; Laboratory Research Cooperative Program - Scientific Services; Joint Service Testing - TRI-TAC; Ordnance Detection Main Support; and Advance Transmission Control Components.
- b. Air Force - Modular Kits and Alarms; AN/TTC 39 and Air Force Drone Program; Joint Service Testing - TRI-TAC; Structure Feasibility; Air Defense Targets; Aircraft Vulnerable Areas; Gun Systems Effectiveness Comparison; Seismic/Acoustic Analysis; Terrain Target Analysis; and Optimum Use of Energy in Military Facilities.
- c. Marine Corps - Advanced Development of 105mm Encapsulated Flame Round; Water and Soil Analysis; and Cargo Handling.
- d. Office, Secretary of Defense - Laser Guided Weapon Chemical Test.
- e. Advanced Research Projects Agency - Warhead technology in-house support of various Defense Advanced Research Projects Agency projects.
- f. Defense Communications Agency - TRI-Service Propagation Program and Electro-Magnetic Pulse effects.
- g. Defense Mapping Agency - Purchase of Automatic Data Processing Systems; Photography, US Army Avionics Laboratory Terrain Model and support of: photogrammetric exploitation, cartographic exploitation, geodetic and geophysical support, data base/data bank and products and services.
- h. Defense Nuclear Agency - DICE THROW; Ground Motion Studies; Materiel Modeling; Grout Development; Nuclear Weapons Effects Program; Ice Cap; Perimeter Barrier Penetration Test; and Direct Test Support Blast Effects.
- i. National Security Agency - Joint Service Testing; Support of Electronic Warfare Testing; and Human Engineering Support.
- j. Consumer Product Safety Commission - Analysis of consumer products.
- k. Department of Transportation - Development of Math Model; Haul Road Study; Tank Car Study; and Flywheel Application Study.

Section 5 (Contd)

ANALYSIS OF RETIMEURSABLE PROGRAM

- l. Energy Research and Development Administration - Grout Studies; High Temperature Dust Control; Support Sandia Base; Airborne Particles; and Heat Energy Highway Systems.
- m. Environmental Protection Agency - Oil Movement and Ice Fog Studies; Technical Support to Office of Noise Abatement and Control; Health Effects Associated with Spray Irrigation of Wastewater Effluents; New Microbial Indicators of Disinfection Efficiency; and Testing Biological Effects of Microwave.
- n. National Aeronautical and Space Administration - Electrochemical Biocide Study and Support of Contract with Philco Ford Corporation on Electronic Research.
- o. US Coast Guard - Low Cost Radiological Instrumentation; Radar Flight Test Program; Lifeboat Heat Test; Life Raft Test; Night Sights for Surveillance; and Wide Area Illumination.
- p. Department of Commerce - Subsea Permafrost; Remote Sensing; and Shear Zone.

DEPARTMENT OF DEFENSE, MILITARY
RESEARCH, DEVELOPMENT, TEST, AND EVALUATION, ARMY
FEDERAL CONTRACT RESEARCH CENTERS

Section 6

Federal Contract Research Centers (FCRCs) are those organizations primarily engaged in providing specialized technical and scientific effort necessary to supplement that available in the Army. The centers listed are those sponsored by the Department of Defense which provide technical and management services in the management of the Army's programs. These centers provide independent, specialized, technical and scientific capabilities to supplement that available within the Department of the Army.

FCRCs have been established to permit more organizational flexibility, and greater availability of technical and scientific personnel. These research centers possess unique skills and capabilities resulting from the development of highly specialized professional staff intimately acquainted with the many facets of the Army's mission. This capability results from long association and practical experience with the Army. The in-depth background provides the Army with a research capability that cannot be immediately obtained elsewhere. Long association with the Department of Defense enables these centers to render quick response technical advisory service as well as to perform detailed research and analysis. This long association has tailored these research centers to be compatible with Army interests, procedures and operational requirements.

While the Army no longer sponsors an FCRC it will be necessary to continue research and development effort at FCRCs sponsored by the Department of Defense and the other services. These research and development contracts provide timely and innovative products and techniques appropriate to current and long-range Army missions and plans.

The requested FY 1978 and FY 1979 FCRC requirements reflect increases of \$1.1 million comparing FY 1978 to FY 1977 and \$1.3 million when comparing FY 1979 to FY 1978.

Section 6 (Contd)

FEDERAL CONTRACT RESEARCH CENTER

The following summary identifies the estimated work, excluding subcontract effort, to be placed with each Federal Contract Research Center (FCRC) from the Research, Development, Test, and Evaluation, Army appropriation and from the other Army appropriations.

SUMMARY BY APPROPRIATION AND PROGRAM ELEMENT
(\$ in Thousands)

<u>FEDERAL CONTRACT RESEARCH CENTER/APPROPRIATION/PROGRAM ELEMENT</u>	<u>FY 1976</u>	<u>FY 1976</u>	<u>FY 1977</u>	<u>FY 1978</u>	<u>FY 1979</u>
	<u>ACTUAL</u>	<u>ESTIMATE</u>	<u>ESTIMATE</u>	<u>ESTIMATE</u>	<u>ESTIMATE</u>

AEROSPACE CORPORATION

Research, Development, Test, and Evaluation, Army

6.21.05.A Materials	52	-	-	-	-
6.27.07.A Mapping and Geodesy	50	10	-	24	27
6.33.04.A Ballistic Missile Defense Advanced Technology Program	120	62	150	225	250
6.33.08.A Ballistic Missile Defense Systems Technology	570 *	210 *	700 *	1,200 *	1,260 *
6.33.14.A High Energy Laser Components	-	10	50	50	56
6.37.30.A Tactical Surveillance System	443	100	250	320	355
6.37.45.A Tactical Electronic Warfare Equipment					
6.47.40.A Tactical Surveillance System					
Total RDTE, Army	665	182	850	944	1,048
Total RDTE, Army Included in Air Force Ceiling	570	210	700	1,200	1,260
Total Aerospace Corporation	1,235	392	1,550	2,144	2,308

* Program funded by Army but included in Air Force ceiling.

Remarks: The expertise and facilities of Aerospace Corporation are required to support the Army as follows:

1. Materials - The technical expertise of Aerospace Corporation is needed to support ongoing high urgency research efforts directed towards new Army aircraft and weapons systems. Without the technical expertise of Aerospace Corporation efforts relative to new sophisticated materials and systems will suffer serious time loss in the areas of gear materials, high density penetrators and metal matrix composites.

Section 6 (Contd)

FEDERAL CONTRACT RESEARCH CENTERS

SUMMARY BY APPROPRIATION AND PROGRAM ELEMENT
(\$ in Thousands)

FEDERAL CONTRACT RESEARCH CENTER/APPROPRIATION/PROGRAM ELEMENT

AEROSPACE CORPORATION (Continued)

2. Mapping and Geodesy - Aerospace expertise is needed to develop specifications and requirements for hardware and software to interface a prototype system for processing of advanced sensor data. In addition, assistance is needed in development of data processing routines and algorithms. Aerospace is the only source of expertise in advanced data collection systems.
3. High Energy Laser Components - Aerospace Corporation is the leading laboratory in the field of investigating the fundamental processes in D₂-F₂ lasers for service-related programs. Development of models for these processes is a requirement for later hardware programs at contractor sites. No impact on the program is foreseen if alternative in-house capabilities or other contractual sources were to provide the support requested.
4. Tactical Electronic Warfare and Surveillance System - The Aerospace Corporation will provide level of effort support to the US Army Space Program Office (ASPO) in FY 1978. Effort is split into the following areas:
 - a. General System Support will be provided. Studies, both conceptual and hardware oriented, will be identified, scoped and performed according to established milestones. Aerospace will help develop a Long-range planning and briefing support, both personnel and material will be provided.
 - b. General System Engineering/Technical Direction in support of simulation development and documentation and in support of other contractor efforts to be defined will be provided.
 - c. Aerospace will modify and exercise several
 - d. Aerospace will provide technical support and perform system studies in support of Army field evaluations.
 - e. Aerospace will provide

Section 6 (Contd)

FEDERAL CONTRACT RESEARCH CENTERS

SUMMARY BY APPROPRIATION AND PROGRAM ELEMENT
(\$ in Thousands)

FEDERAL CONTRACT RESEARCH CENTER/APPROPRIATION/PROGRAM ELEMENT

AEROSPACE CORPORATION (Continued)

5. Aerospace Corporation - The Aerospace Corporation provides interface and planning support for Joint Army/Air Force research and development efforts mutually beneficial to the ballistic missile defense/strategic offense force missions. During FY 1978, this effort will address the interface between Ballistic Missile Defense Missions and Air Force Missions with the objective of providing a set of requirements mutually beneficial to both classes of missions. Support will also be provided to the Air Force Space and Missile System Organization in procurement and integration of secondary payloads. Similar support has been provided in the past for other Ballistic Missile Defense Advanced Technology Center programs including earlier Reentry Measurements Program phases and the Special Target Program Phase.
6. Ballistic Missile Defense Systems Technology Program (program funded by the Army but included in Air Force ceiling):
 - a. The Air Force will be the procuring agency for the Systems Technology Intercontinental Ballistic Missile (ICBM) targets. Target requirements are placed on the Air Force through formal channels and are funded by MIPR. The Air Force is required to procure targets for testing for all services as a matter of DOD policy.
 - b. The Air Force uses Aerospace Corporation for technical support. Justification and man year requirements are established by the Air Force based on projected Systems Technology target requirements. The technical support includes preparation of contractual documents, proposal evaluation, and providing technical direction to Air Force contractors. In addition to these tasks, Aerospace also supports the Air Force in the area of program planning and by performing in-house studies. In providing targets for Systems Technology, the Air Force will rely on Aerospace Members of the Technical Staff (MTS) to perform tasks similar to the above.
 - c. During the FY 1977, Aerospace will support the Air Force in the payload integration and missile preparation for two missions made up of SAFEGUARD surplus hardware to support Systems Technology program requirements. These missions will be launched in FY 1979. Initial payload to booster integration will be performed in preparation of two missions using updated MINUTEMAN-I Minuteman Instrumented Payload Delivery System (MIPDS) hardware.
 - d. In FY 1978 Aerospace will support the Air Force in scheduling range support, preparing for launch and launching two MINUTEMAN-I missions to meet Systems Technology program requirements. One mission using a MINUTEMAN-I MIPDS demonstration missile and a payload which meets Systems Technology program requirements will be prepared and launched. Also, mission design and payload to booster integration support will be provided for a MINUTEMAN-I MIPDS mission to be launched in FY 1979. Aerospace will support the Systems Technology contractor in the areas of mission planning and mission design.

Section 6 (Contd)

FEDERAL CONTRACT RESEARCH CENTERS

SUMMARY BY APPROPRIATION AND PROGRAM ELEMENT
(\$ in Thousands)

FEDERAL CONTRACT RESEARCH CENTER/APPROPRIATION/PROGRAM ELEMENT	FY 1976 ACTUAL	FY 1970 ESTIMATE	FY 1977 ESTIMATE	FY 1978 ESTIMATE	FY 1979 ESTIMATE
<u>LINCOLN LABORATORY, MASSACHUSETTS INSTITUTE OF TECHNOLOGY</u>					
<u>Research, Development, Test, and Evaluation, Army</u>					
6.33.04.A Ballistic Missile Defense Advanced Technology Program . . .	6,861	1,770	7,149	7,435	7,881
6.33.14.A High Energy Laser Components	-	-	350	368	390
6.53.01.A Kwajalein Missile Range (KMR)	3,249	825	3,171	3,294	3,492
Total RDTE, Army	10,110	2,595	10,670	11,097	11,763
Total Lincoln Laboratory, Massachusetts Institute of Technology	10,110	2,595	10,670	11,097	11,763
Subcontract effort excluded from this amount	11,898	2,681	10,159	10,912	11,467

Remarks: Work to be performed at the Lincoln Laboratories is as follows:

1. Ballistic Missile Defense Advanced Technology Program
 - a. Discrimination technology effort includes work in reentry discrimination, bulk filtering, bulk discrimination, exoatmospheric designation and discrimination engineering and radar data analysis and interpretation. A computer has been installed at the Lexington, Mass. laboratory and various designation and discrimination (D&D) algorithms have been tested in simulation. Kiernan Reentry Measurements Site (KREMS) data from future Reentry Measurements Program (RMP) missions and data from Air Force and Navy missions will be utilized in FY 1978 for evaluation of Discrimination Algorithms at the Lexington, Mass. Laboratory.
 - b. Radar technology effort includes work in millimeter-wave components, laser components, large band-width signal processing, radar signal processing, antenna technology, surface wave technology, and array development.

Section 6 (Contd)

FEDERAL CONTRACT RESEARCH CENTERS

SUMMARY BY APPROPRIATION AND PROGRAM ELEMENT
(\$ in Thousands)

FEDERAL CONTRACT RESEARCH CENTER/APPROPRIATION/PROGRAM ELEMENT

LINCOLN LABORATORY, MASSACHUSETTS INSTITUTE OF TECHNOLOGY (Continued)

c. Optics technology effort includes laser measurements, passive optics measurements, and handover experiments. A laser measurement facility is being constructed and will be installed and checked out at Kwajalein Missile Range (KMR) in FY 1977. Operation of the Army Optical Station on Roi Namur will continue to expand the data base on targets of opportunity. Nonreal time optics/radar handover experiments will be completed and preparations will be made for real time handover experiments in FY 1978.

d. Distributed defense technology effort consists of modification of concepts developed during previous studies to incorporate the results of technology developments and data collection efforts. Nonnuclear requirements and capabilities of these concepts will be determined. Electronic countermeasures responses will be developed. Other requirements to be addressed include redundancy, data association, trilateration tracking, battle management and engagement logic.

2. High Energy Laser Components - (Task I) - Evaluate high energy repetitively pulsed laser propagation and specifically the capabilities of special optics techniques as applied to pulsed lasers. Also, to assist in implementation and testing of a high power demonstration of optics system. Specific efforts will include range layout, measurement of beam quality, etc., and analysis of data. (Task II) - Assist the Army in defining requirements for a high energy laser system. General categories of requirements will have been identified already; this task will be for the purpose of determining specific items and capabilities which a tactical system must have. The effort will involve trade-off studies for different approaches, investigation of other service programs which bear on Army problems, and/or development of new ideas as necessary. Lincoln Laboratory has a unique capability to perform evaluations and design experiments in the areas of high energy laser (HEL) propagation and in pointing and tracking for HEL Systems. There exists at Lincoln Laboratory a wealth of expertise in these two areas and in related areas. Lincoln personnel have been intimately involved in all technical aspects of the overall DOD laser effort, and therefore, this group can make an immediate and telling impact on the Army's HEL program. In addition, Lincoln Laboratory does not compete with contractors and so can evaluate ideas and approaches without prejudice. No other group, in industry or in government, has the background and expertise which Lincoln Laboratory can bring to bear on the tasks outlined in this description.

Section b (Cont'd)

FEDERAL CONTRACT RESEARCH CENTERS

SUMMARY BY APPROPRIATION AND PROGRAM ELEMENT
(\$ in Thousands)

FEDERAL CONTRACT RESEARCH CENTER/APPROPRIATION/PROGRAM ELEMENT

LINCOLN LABORATORY, MASSACHUSETTS INSTITUTE OF TECHNOLOGY (Continued)

3. Kwajalein Missile Range (KMR)

a. The Kiernan Reentry Measurements Site (KREMS) radars were developed by the Massachusetts Institute of Technology/Lincoln Laboratory (MIT/LL) under Advanced Research Projects Agency (ARPA) sponsorship, and by direction of the Director, Defense Research and Engineering, transferred to the Kwajalein Missile Range Directorate (KMRD) of the Ballistic Missile Defense Systems Command (BMDSOM) in 1968 to support the National Range mission.

b. MIT/LL serves as Scientific Director of KREMS at KMR, and they are considered predominant experts for this particular task. They provide the technical management of the overall KREMS instrumentation system which includes three very unique and complex radar sensors and their associated display, control, and recording equipments in support of mission operations. Additionally, MIT/LL performs the offsite mission test planning, radar systems engineering, and data reduction and reporting.

c. Their overall efforts are pursuant to the objective of providing an integrated operation with multiple sensors whose total spectrum of capabilities will allow the collection of data for both strategic offensive and defensive weapon system development and which will function as an extremely flexible test bed for experiments on Advanced Ballistic Missile system techniques. The instrumentation system at KREMS is a continually evolving one due to the emphasis on using, in real time, the capabilities of the individual sensors to maximize the total effectiveness for data collection.

d. KMR does not have the in-house capability to perform this effort. If the effort were sought from other contractual sources, the expertise gained at MIT/LL and nurtured during the last 12 years at government expense would be sacrificed and an unacceptable degradation in the quality and efficiency of support provided testing programs would occur.

Section 6 (Contd)

FEDERAL CONTRACT RESEARCH CENTERS

SUMMARY BY APPROPRIATION AND PROGRAM ELEMENT
(\$ in Thousands)

FEDERAL CONTRACT RESEARCH CENTER/APPROPRIATION/PROGRAM ELEMENT

	FY 1976 ACTUAL	FY 1976 ESTIMATE	FY 1977 ESTIMATE	FY 1978 ESTIMATE	FY 1979 ESTIMATE
<u>MITRE CORPORATION</u>					
<u>Research, Development, Test, and Evaluation, Army</u>					
3.31.45.A USAREUR Command, Control and Information System (CCIS) . .	-	-	-	450	-
6.37.04.A Unattended Ground Sensors	142	65	100	100	145
6.57.13.A Battlefield Systems Integration Office	405	225	1,962	2,035	2,785
Total RDTE, Army	547	290	2,062	2,585	2,930
<u>Operations and Maintenance, Army</u>					
395781 US Army Communications Command	400	103	400	420	600
Total O&M, Army	400	103	400	420	600
Total MITRE Corporation	947	393	2,462	3,005	3,530

Remarks: MITRE Corporation technical support to the Army is required as follows:

1. Unattended Ground Sensors - Funds are required during FY 1978 for continuation of support commenced by the MITRE Corporation in FY 1972. MITRE Corporation will continue to provide technical support of advanced development efforts to insure that design of evolutionary components and end items are responsible to system requirements in a cost effective manner and are compatible with configuration items in the basic system.

Due to familiarity with the Remotely Monitored Battlefield Sensor System (REMBASS) program over 6 years (FY 1972-1977), no alternative in-house or contractor capabilities can be substituted for MITRE Corporation technical support during FY 1978. Systems engineering support by the MITRE Corporation during this year will be particularly important in new technology to be applied to REMBASS.

Section 6 (Contd)

FEDERAL CONTRACT RESEARCH CENTERS

SUMMARY BY APPROPRIATION AND PROGRAM ELEMENT
(§ in Thousands)

FEDERAL CONTRACT RESEARCH CENTER/APPROPRIATION/PROGRAM ELEMENT

MITRE CORPORATION (Continued)

2. Battlefield Systems Integration Office US Army Materiel Development and Readiness Command (DARCOM) - The work programmed for the MITRE Corporation is to initiate in FY 1976 and carry forward in subsequent years the Army's Battle Systems integration effort. This program consists of creative, inter-disciplinary design work treating the Army in the field as a total and cohesive system, integrated so that combat subsystems such as ground forces, organic aerial units and appropriate components of the Tactical Air Command of the US Air Force work in a common framework, with each element configured to maximize total system capabilities. There are two complimentary thrusts of activity, carried on simultaneously. The first is the architecture or design of an overall battlefield systems concept. The basis for the design is the conviction that technology is now at hand to permit battlefield data collected by any sensor (e.g., forward observer, radar, infrared on remotely piloted vehicles) to be communicated in real time to command and control centers where it is instantaneously sorted, collated, displayed and transmitted digitally to maneuver or fire units who will act on it. Such a master design to guide the Army's R&D effort will optimize weapon, C3 and sensor development. New developments that are only marginally effective when viewed in the context of an integrated battlefield system can be screened out. A synergistic effect will be achieved in the R&D effort by permitting new equipment to realize its full technological potential through interoperability with communications, command and control, target acquisition or other weapons operating in the system. An example of failing to exploit fully new technology by not integrating battlefield systems is the development of artillery pieces that extend achievable ranges from approximately 15 kilometers to 30 kilometers, but no coordinated development of target acquisition, communications, and tactical data systems has been conducted to present targets in real time out to those ranges.

The MITRE Corporation is considered to be uniquely qualified for the Army's pioneer systems architecture and design program for several reasons. MITRE has a widely accepted reputation for quality technical work in target acquisition, telecommunications and data processing. MITRE has extensive experience in comprehensive battlefield command and control systems, a level of technical sophistication and tactical application that has never been attempted in the Army before. MITRE's experience has been gained in such projects as Joint Tactical Information Distribution System, World-Wide Military Command and Control Systems, and extensive work for the Air Force in tactical command and control systems. Interoperability of tactical Army-Air Force systems is considered vital and MITRE will contribute synergistically. Finally, MITRE has on board the requisite scientific talent, both in terms of numbers and experience to undertake an Army Battlefield Systems Integration program without undue delay for recruiting or education in defense systems. It is anticipated that a plan for an all-encompassing tactical system can be conceived, analyzed, and trade off studies completed two years from initiation.

Section 6 (Contd)

FEDERAL CONTRACT RESEARCH CENTERS

SUMMARY BY APPROPRIATION AND PROGRAM ELEMENT
(\$ in Thousands)

FEDERAL CONTRACT RESEARCH CENTER/APPROPRIATION/PROGRAM ELEMENT

MITRE CORPORATION (Continued)

A second line of effort focuses on near-term improvements to the Army's combat capability by optimizing tactical subsystems such as field artillery, night combat, air defense and aviation. Each of these functional subsystems have shortfalls that could be corrected by a searching battlefield systems analysis. By virtue of the intensive effort to design an all-encompassing tactical system, the ability of the in-house staff and contractual designers to identify subsystem shortcomings will be considerably sharpened. As high payoff areas for short term correction are positively identified, teams of 10 to 20 engineers and analysts will be assigned to these areas to develop fully documented program recommendations to give higher priority to certain lines, modify or terminate others, provide guidance for product improvements and input to research and technology development. It is anticipated that FY 1977 up to four functional areas will be undergoing detailed analysis, with a total contractual effort of 40-50 professionals.

In summary, MITRE will provide total systems design and architecture support plus command and control subsystems analysis building up to 32½ man years and \$2.06 million RDTE in FY 1977. In-house scientific and management support will build up to \$1.04 million in FY 1977. In FY 1976 major revisions to significant combat subsystems (e.g., artillery and fire support, night combat, aviation, or air defense), were developed, documented and be in the process of implementation. At the end of FY 1977 a total battlefield system implementation plan, which will optimize weapon, sensor and telecommunications development as well as establish common specifications to insure system compatibility and interoperability for future development will be complete. In subsequent years all development will be monitored for conformance, and additional subsystems optimization plans will be completed. The successful completion of these tasks is accorded the highest priority by Commander (US Army Materiel Development and Readiness Command, the Under Secretary of the Army, and in OSD). FY 1978 program will encompass the completion of a system architecture for the target acquisition, C3, weapon engagement command and control and assessment subsystems. Implementation of the systems engineering phase will be initiated and the architecture effort extended to air defense, air space coordination, aviation, etc., designed to integrate overall systems. The work will be verified by intensive subsystem studies and tactical testing/experimentation. The FY 1979 program should complete the architecture effort. Systems engineering to implement the master design will dominate the FY 1979 effort. Additional experimentation to evaluate the integration concept will be coordinated.

Section 6 (Contd)

FEDERAL CONTRACT RESEARCH CENTERS

SUMMARY BY APPROPRIATION AND PROGRAM ELEMENT
(\$ in Thousands)

FEDERAL CONTRACT RESEARCH CENTER/APPROPRIATION/PROGRAM ELEMENT

MITRE CORPORATION (Continuing)

Because of the scope and complexity of the systems architecture task, encompassing all tactical developments and including close interface with Air Force capabilities, an experienced in-house team could not be assembled to accomplish this task. There is no precedent in the Army for an undertaking of this magnitude. Other non-FCRC contractors would pose several difficulties. There are very few non-FCRC companies with experience in large command and control projects. Those that do possess this experience are fully committed in similar efforts (e.g., World-Wide Military Command and Control Systems) now. Choosing a company other than MITRE therefore entails considerable delay for negotiation and source selection, followed by several months while the contractor recruits and educates a staff. There is considerable risk that even after six months to a year's delay the resulting contractor will not have experienced management and technical people to carry out a large, complex battlefield systems integration project.

3. Technical Design of a USAREUR Command, Control and Information System (CCIS) - The long-term and some near-term concepts outlined in the USAREUR CCIS study must be translated into specific technical designs that will be the basis for subsequent implementation efforts. MITRE Corporation has been supporting the USAREUR CCIS Study since July 1976. Continuity of effort and efficiency are best achieved if the follow-on efforts are accomplished by MITRE personnel as opposed to an in-house effort or another contractor. The Man-Technical-Staff is projected to be 60 man-months in FY 1978.

4. Army Garrison Communications-Electronics Systems are not responsive to current requirements. The FY 1979-1985 needs for Communications-Electronics facilities to include audio, video, data, facsimile, messages, television and specialized signaling cannot be met. Garrison mission and installation support activities increasingly depend on multimedia communications. MITRE will provide systems engineering technology support to the Army for test bed implementation. The Army does not have the engineering capability to perform tasks involving advanced technology association with multimedia integrated communications-electronics. MITRE access to proprietary information and industry proposals is key to the solution of the best technology and hardware for this program.

Section 6 (Contd)

FEDERAL CONTRACT RESEARCH CENTERS

SUMMARY BY APPROPRIATION AND PROGRAM ELEMENT
(\$ in Thousands)

<u>FEDERAL CONTRACT RESEARCH CENTER/APPROPRIATION/PROGRAM ELEMENT</u>	<u>FY 1976</u>	<u>FY 1977</u>	<u>FY 1978</u>	<u>FY 1979</u>
	<u>ACTUAL</u>	<u>ESTIMATE</u>	<u>ESTIMATE</u>	<u>ESTIMATE</u>
<u>TOTAL PROGRAM SUMMARY BY APPROPRIATION</u>				
Research, Development, Test, and Evaluation	11,322	13,582	14,626	15,741
Operations and Maintenance	400	400	420	600
Total Federal Contract Research Center Requirement	11,722	13,982	15,046	16,341
Subcontract effort excluded from this amount	11,898	10,159	10,912	11,467

DEPARTMENT OF DEFENSE, MILITARY
RESEARCH, DEVELOPMENT, TEST, AND EVALUATION, ARMY
MAJOR IMPROVEMENTS TO AND CONSTRUCTION OF GOVERNMENT-OWNED
FACILITIES FUNDED BY RDTE, ARMY APPROPRIATION

Section 7

PART 1. UTILIZATION OF SECTION 2353, TITLE 10 AUTHORITY

Specialized R&D facilities determined to be necessary for the performance of a contract for a Military Department for research and development, may be constructed by or furnished to the contractor and funded from appropriations available for research, development, test, and evaluation. The Congress enacted this legislation, now 10 USC 2353, in 1956. This policy is executed through DOD Directive 4275.5. Under this policy, construction of R&D projects for contractors up to \$500,000 is normally approved by the Major Command concerned; the Service Secretary or such delegate as he may authorize approves projects up to \$1,000,000; and the Director of Defense Research and Engineering approves projects over \$1,000,000. The table below provides a summary listing of all such projects accomplished in FY 1976, FY 1977, and planned in FY 1978 and FY 1979:

Facility/Equipment	RDTE Project Number	Contractor	Location	Total Obligational Authority (Thousands of Dollars)			
				FY 76	FY 77	FY 78	FY 79

SECTION I

Projects Accomplished or Underway

1. Projects Accomplished

a. Supporting Facilities for Patriot Fire Control Group	1X364307D212	Raytheon Company	White Sands Missile Range, NM	448	-	-	-
b. Alteration & Construction Bldg 200C for Advanced Concepts Laboratory Contractor Use	1L662601AH91	Battelle Memo- rial Institute	Warren, MI	43	-	-	-

2. Supporting Narrative Statement on Projects of \$300,000 or More

a. This project provided the facilities required for the installation of the Patriot Fire Control Group Equipment and Hardware at WSMR to support the Phase II Missile Firing Program. The facilities were provided through existing contracts with Raytheon and the Patriot Project Office. The prime facility is a frame structure of 1865 SF. This building will house the A/C equipment, provide access ways to the fire control equipment, and the operations control center. The site work includes

Section 7 (Contd)

MAJOR IMPROVEMENTS TO AND CONSTRUCTION OF GOVERNMENT-OWNED
FACILITIES FUNDED BY RDTE, ARMY APPROPRIATION

Facility/Equipment	RDTE Project Number	Contractor	Location	Total Obligational Authority (Thousands of Dollars)		
				FY 76	FY 77	FY 78

2. Supporting Narrative Statement on Projects of \$300,000 or More (Continued)

construction of an elevated fill area with base and paving. A retaining wall was constructed at the edge of the berm to prevent erosion. Utilities constructed are primary and secondary electrical distribution and a 725 KVA electrical substation. Work consisted of site preparation, foundation, and installation of two (2) forty foot test towers; a radar liquid cooling unit base, sound barrier and protective cover; and cable trenches using preformed concrete units. In addition, work was performed for the installation of a Radar Unit (RU), Digital Acquisition System (DAS) van, and RU maintenance shelters. This project is not within a known flood plain. DOD "U" factors will be met.

b. Major Items Included in Project Accomplished:

Severable:	None	-	-	-
Nonseverable:				
Operations Support Building	104.0	-	-	-
Air Conditioning System	31.1	-	-	-
Supporting Facilities:				
Site Improvements	19.0	-	-	-
Site and Facilities Utilities	86.9	-	-	-
Test Towers and Cable Trench	6.1	-	-	-
Data Acquisition Center	11.5	-	-	-
Fire Sprinkler	11.5	-	-	-
Comm & Comm Sec (TEMPEST)	30.0	-	-	-
Facilities & Instrumentation Design & Engineering	90.8	-	-	-
Miscellaneous (RU Base & CU PAD, etc)	56.7	-	-	-

c. The supporting facilities were required for the installation of the fire control group equipment to support the Phase II Missile Firing Program scheduled for September 1976. The supporting facilities provided an operations control center for the installation of the PATRIOT Fire Control Group. These facilities will be contractor-operated (Raytheon).

d. Contract number under which RDTE project was funded: DAAH01-72-0106.

Section 7 (Contd)

MAJOR IMPROVEMENTS TO AND CONSTRUCTION OF GOVERNMENT-OWNED
FACILITIES FUNDED BY RDTE, ARMY APPROPRIATION

<u>Facility/Equipment</u>	<u>RDTE Project Number</u>	<u>Contractor</u>	<u>Location</u>	<u>Total Obligational Authority (Thousands of Dollars)</u>			
				<u>FY 76</u>	<u>FY 77</u>	<u>FY 78</u>	<u>FY 79</u>

SECTION II

Projects Planned or Projected

Negative

PART 2. UTILIZATION OF RDTE APPROPRIATION FOR FACILITIES/EQUIPMENT AT GOVERNMENT-OWNED/GOVERNMENT-OPERATED INSTALLATIONS

Chapter 251 (which was approved by the GAO as DOD Instruction 7220.5) provides that RDTE appropriations may finance the development, design, purchase and installation (including directly related foundations, shielding, environmental control, weather protection, structural adjustments, utilities and access) of equipment or instrumentation required for research, development, test, and evaluation activities. The table below provides a summary listing of all such projects for the installation of equipment, where the cost of installation is \$50,000 or more, accomplished in FY 1976, FY 1977, and planned in FY 1978 and FY 1979:

<u>Facility/Equipment</u>	<u>RDTE Project Number</u>	<u>Location</u>	<u>Total Obligational Authority (Thousands of Dollars)</u>			
			<u>FY 76</u>	<u>FY 77</u>	<u>FY 78</u>	<u>FY 79</u>

SECTION I

Projects Accomplished or Underway

Negative

Section 7 (Contd)

MAJOR IMPROVEMENTS TO AND CONSTRUCTION OF GOVERNMENT-OWNED
FACILITIES FUNDED BY RDTE, ARMY APPROPRIATION

Facility/Equipment	RDTE Project Number	Location	Total Obligational Authority (Thousands of Dollars)		
			FY 76	FY 77	FY 78

SECTION II

Projects Planned or Projected

1. Projects Planned

a. Design of installation for items being moved in conjunction with the Armament Command reorganization project supports DD1391, Picatinny Arsenal Proj #T28600.	1P865801MM88	Picatinny Arsenal, Dover, NJ	438	-	-
b. Install 3000 Ton Hydraulic Press	1P865801MM88	Picatinny Bldg 3150	-	-	200
c. Installation of cabling for 14 remote video display stations	1P865801MM88	Picatinny Bldg 12	-	-	151
d. Install Test Chamber Rain-sun	1P865801MM88	Picatinny Bldg 3100	-	-	153
e. Install Torsion Meter	1P865801MM88	Picatinny Bldg 351	-	-	80
f. New Computer Facility Site Preparation Building 328, Aberdeen Proving Ground, MD	1P865801MM88	Aberdeen Proving Ground, MD	100	-	210
g. Install Laser Laboratory	1P865801MM88	Ft. Belvoir, VA	-	-	371
h. Install Signals Warfare Laboratory Facilities	1P865801MM88	Vint Hill Farms Station, VA	-	-	127
i. Deinstall Signals Warfare and Laser Laboratories Equipment (ERADCOM)	1P865801MM88	Ft. Monmouth, NJ	-	-	243

Section 7 (Contd)

MAJOR IMPROVEMENTS TO AND CONSTRUCTION OF GOVERNMENT-OWNED
FACILITIES FUNDED BY RDTE, ARMY APPROPRIATION

Facility/Equipment	RDTE Project Number	Location	Total Obligational Authority (Thousands of Dollars)		
			FY 76	FY 77	FY 78

2. Supporting Narrative Statement on Projects of \$300,000 or More

a. Picatinny Arsenal, Design for Installation of Equipment

(1) Funds for Architectural Engineer (AE) Design Contract for installation of approximately 6,000 major items of equipment in 13 existing and two new buildings at Picatinny Arsenal, Dover, NJ.

(2) No new major items of equipment or structures are requested under this project. All costs are non-severable costs.

(3) The project is required to provide architectural design to install the cited equipment as a part of an overall architectural contract to alter or construct the buildings. The purpose of this action is to support the first phase of a three year program to form the US Army Armament Research and Development Command and to consolidate most Armament Research and Development Activities at Picatinny Arsenal. This project is for design for equipment moving from Frankford, Rock Island, and Edgewood Arsenals and to reorganize with it, certain equipment already installed at Picatinny Arsenal. Funding has already been accomplished and contract is underway under NY District Engineer Contract DAC-651-76-C-0168.

(4) Contract number under which RDTE project was funded: Not applicable. Project supports all ongoing, in-house Armament, small arms, large calibre and small calibre ammunition, fire control systems, technical diagnostic equipment, mechanical time-fuse optics and tech base physical science research and development projects.

(5) Statement of protection of interest of the United States: Not applicable. All facilities and equipment are government owned.

b. Ft. Belvoir, VA, Laser Laboratory

(1) Alterations to existing laboratory and office space in Building 357, Ft. Belvoir, VA to accept installation of existing, government owned, laser laboratory equipment being moved from Ft. Monmouth, NJ and Adelphi, MD. Building 357 is a modern, permanent laboratory building of 48,000 square feet of which approximately 29,000 square feet will be devoted to laser laboratory purposes. Project also includes the cost of desinstallation, shipment and installation of this equipment and the secondary moves required to rearrange other equipment already in the building. Building modifications require minor movement and rearrangement of partitions and doors; provision for new utilities hook-up for power, water and air; laboratory hoods and venting equipment; laser door interlocks; electrical screen rooms and added humidity control in one area. No new major items of equipment are included in the project.

Section 7 (Contd)

MAJOR IMPROVEMENTS TO AND CONSTRUCTION OF GOVERNMENT-OWNED
FACILITIES FUNDED BY RDTE, ARMY APPROPRIATION

Facility/Equipment	RDTE Project Number	Location	Total Obligational Authority (Thousands of Dollars)		
			FY 76	FY 77	FY 78

2. Supporting Narrative Statement on Projects of \$300,000 or More (Continued)

(2) No new major items of equipment or additions to structure are requested under this project. All costs are non-severable costs.

(3) The facility is required to provide the minimum facilities necessary to house the proposed reorganization of laser research and development missions presently assigned to the Electronics Command at Ft. Monmouth, NJ and Harry Diamond Laboratories at Adelphi, MD. These missions are to be consolidated with similar functions already located at Ft. Belvoir and a part of a proposed reorganization which will achieve in excess of \$7,200,000 in annual savings. This project provides for installation of laboratory facilities for research, development, experimentation, technical data recording, experimental fabrication and testing for all types of laser devices to be used for distance ranging, fire control, target designation, target signature and similar laser applications. Funding is requested in FY 77 to allow completion of project prior to move proposed for late FY 78.

(4) Contract number under which RDTE project was funded: Not applicable. Project supports all ongoing, in-house non-lethal laser technical base, research and developmental projects (except medical).

(5) Statement of protection of interest of the United States: Not applicable. All facilities and equipment are government owned.

PART 3. UTILIZATION OF RDTE APPROPRIATION FOR MINOR CONSTRUCTION

For in-house installations, construction projects in support of R&D for \$75,000 or less are funded from RDTE appropriations. Such expenditures are authorized by 10 USC 2674 and the applicable provisions of the current DOD Appropriation Act. Under this procedure, project approval at this level is authorized by the Major Command concerned, or delegated to R&D installation commanders as appropriate. The table below provides a summary total of such minor construction accomplished in FY 1976 and FY 1977, and the estimated amounts planned for FY 1977 and FY 1978.

SUMMARY OF MINOR CONSTRUCTION FUNDED BY RDTE, ARMY

FY 1976	FY 1977	FY 1978
2,620	2,000	2,200

DEPARTMENT OF DEFENSE, MILITARY
RESEARCH, DEVELOPMENT, TEST, AND EVALUATION, ARMY
PROJECT DATA FOR CONSTRUCTION AT GOVERNMENT-OWNED
FACILITIES FUNDED BY RDTE, ARMY APPROPRIATIONS

Section 8

A DD Form 1391, Military Construction Project Data, will be included in this section for each budget year project for proposed construction, alteration, expansion or modernization of Government-owned facilities. A DD Form 1391 is not required to support the lump-sum estimate for minor construction included in Section 7. This estimate will continue to be a contingency estimate based on past experience as related to the budget year program.

Section 8 (Contd)

1. DATE 18 May 1976		2. FISCAL YEAR 1976		3. DEPARTMENT ARMY				4. INSTALLATION White Sands Missile Range	
5. PROPOSED AUTHORIZATION \$ 447,700				6. PRIOR AUTHORIZATION PL		7. CATEGORY CODE NUMBER 310-40		8. PROGRAM ELEMENT NUMBER RSA-12-76	
10. PROPOSED APPROPRIATION \$ N/A				11. BUDGET ACCOUNT NUMBER		12. PROJECT NUMBER		13. PROJECT TITLE Supporting Facilities for PATRIOT Fire Control Group	

SECTION A - DESCRIPTION OF PROJECT				SECTION B - COST ESTIMATES			
14. TYPE OF CONSTRUCTION				20. PRIMARY FACILITY			
15. TYPE OF WORK				21. SUPPORTING FACILITIES			
<p>16. PHYSICAL CHARACTERISTICS OF PRIMARY FACILITY</p> <p>17. TYPE OF DESIGN</p> <p>18. TYPE OF CONSTRUCTION</p> <p>19. DESCRIPTION OF WORK TO BE DONE</p>				<p>22. TOTAL PROJECT COST</p>			
<p>1. PERMANENT</p> <p>2. SEMI-PERMANENT</p> <p>3. TEMPORARY</p> <p>4. REPLACEMENT</p> <p>5. ADDITION</p> <p>6. ALTERATION</p> <p>7. CONVERSION</p> <p>8. OTHER (SP-1/N)</p>				<p>1. OPERATIONS SUPPORT Bldg</p> <p>2. A/C SYSTEM</p> <p>3. SITE IMPROVEMENTS</p> <p>4. SITE & FACILITIES UTILITIES</p> <p>5. TEST TOWERS & CABLE TRENCH</p> <p>6. NEW MEXICO TAX</p> <p>7. DATA ACQUISITION CENTER</p> <p>8. FIRE SPRINKLER</p> <p>9. COMM & COMM SEC (TEMPERST)</p> <p>10. RU BASE & CU PAD</p> <p>11. CONTINGENCY</p> <p>12. FAC & INSTRUMENTATION DESIGN & ENG</p>			
<p>1. NO. OF BLDGS</p> <p>2. NO. OF STORIES</p> <p>3. LENGTH VARIES</p> <p>4. WIDTH VARIES</p> <p>5. GROSS AREA</p> <p>6. CAP 35 Ton</p> <p>7. COST \$888.6/Ton</p>				<p>1. QUANTITY</p> <p>2. UNIT COST</p> <p>3. COST (\$000)</p>			
<p>1. 1875</p> <p>2. 0</p> <p>3. 0</p> <p>4. 1875</p> <p>5. 0</p> <p>6. 0</p> <p>7. 0</p> <p>8. 0</p> <p>9. 0</p> <p>10. 0</p> <p>11. 0</p> <p>12. 0</p>				<p>1. 1875</p> <p>2. 35</p> <p>3. \$</p> <p>4. \$</p> <p>5. \$</p> <p>6. \$</p> <p>7. \$</p> <p>8. \$</p> <p>9. \$</p> <p>10. \$</p> <p>11. \$</p> <p>12. \$</p>			
<p>1. 1875</p> <p>2. 0</p> <p>3. 0</p> <p>4. 1875</p> <p>5. 0</p> <p>6. 0</p> <p>7. 0</p> <p>8. 0</p> <p>9. 0</p> <p>10. 0</p> <p>11. 0</p> <p>12. 0</p>				<p>1. 1875</p> <p>2. 35</p> <p>3. \$</p> <p>4. \$</p> <p>5. \$</p> <p>6. \$</p> <p>7. \$</p> <p>8. \$</p> <p>9. \$</p> <p>10. \$</p> <p>11. \$</p> <p>12. \$</p>			

SECTION C - BASIS OF REQUIREMENT				TOTAL PROJECT ESTIMATED COST			
23. REQUIREMENT FOR PROJECT				24. REQUIREMENT FOR PROJECT			
<p>1. TOTAL REQUIREMENT</p> <p>2. EXISTING SUBSTANDARD</p> <p>3. EXISTING ADEQUATE</p> <p>4. FUNDED NOT IN INVENTORY</p> <p>5. ADEQUATE ASSETS (C-1, 2, 3, 4)</p> <p>6. UNFUNDED PRIOR AUTHORIZATION</p> <p>7. INCLUDED IN FY</p> <p>8. DEFICIENCY (8-1-1-8)</p> <p>9. RELATED PROJECTS</p>				<p>1. PATRIOT PROJECT OFFICE</p> <p>2. PATRIOT PROJECT OFFICE</p> <p>3. PATRIOT PROJECT OFFICE</p> <p>4. PATRIOT PROJECT OFFICE</p> <p>5. PATRIOT PROJECT OFFICE</p> <p>6. PATRIOT PROJECT OFFICE</p> <p>7. PATRIOT PROJECT OFFICE</p> <p>8. PATRIOT PROJECT OFFICE</p> <p>9. PATRIOT PROJECT OFFICE</p> <p>10. PATRIOT PROJECT OFFICE</p> <p>11. PATRIOT PROJECT OFFICE</p> <p>12. PATRIOT PROJECT OFFICE</p>			
<p>1. 1875</p> <p>2. 0</p> <p>3. 0</p> <p>4. 1875</p> <p>5. 0</p> <p>6. 0</p> <p>7. 0</p> <p>8. 0</p> <p>9. 0</p> <p>10. 0</p> <p>11. 0</p> <p>12. 0</p>				<p>1. 1875</p> <p>2. 0</p> <p>3. 0</p> <p>4. 1875</p> <p>5. 0</p> <p>6. 0</p> <p>7. 0</p> <p>8. 0</p> <p>9. 0</p> <p>10. 0</p> <p>11. 0</p> <p>12. 0</p>			
<p>1. 1875</p> <p>2. 0</p> <p>3. 0</p> <p>4. 1875</p> <p>5. 0</p> <p>6. 0</p> <p>7. 0</p> <p>8. 0</p> <p>9. 0</p> <p>10. 0</p> <p>11. 0</p> <p>12. 0</p>				<p>1. 1875</p> <p>2. 0</p> <p>3. 0</p> <p>4. 1875</p> <p>5. 0</p> <p>6. 0</p> <p>7. 0</p> <p>8. 0</p> <p>9. 0</p> <p>10. 0</p> <p>11. 0</p> <p>12. 0</p>			

Section 8 (Cont'd)

1. DATE 18 May 1976	2. FISCAL YEAR 1976	MILITARY CONSTRUCTION PROJECT DATA (Continued)	3. DEPARTMENT ARMY	4. INSTALLATION White Sands Missile Range
5. PROJECT NUMBER RSA-12-76		6. PROJECT TITLE Supporting Facilities for PATRIOT Fire Control Group		

ITEM 19 CONT'D
Utilities to be constructed are primary and secondary electrical distribution and a 725 KVA electrical substation. Work consists of site preparation, foundation, and installation of two (2) forty foot test towers; a radar liquid cooling unit base, sound barrier and protective cover; and cable trenches using preformed concrete units. In addition, work will be performed for the installation of a Radar Unit (RU), Digital Acquisition System (DAS) van, and RU maintenance shelters. This project is not within a known flood plain. DOD "U" factors will be met.

Section 8 (Contd)

1. DATE		2. FISCAL YEAR		3. DEPARTMENT				4. INSTALLATION			
November 1976		1977		Army				Picatinny Arsenal			
5. PROPOSED AUTHORIZATION		6. PRIOR AUTHORIZATION		7. CATEGORY CODE NUMBER		8. PROJECT NUMBER		9. STATE/COUNTRY		10. PROJECT TITLE	
\$ 200,000		P.L.		5500		6-58-01.A		New Jersey		Install Hydraulic Press	
10. PROPOSED APPROPRIATION		11. BUDGET ACCOUNT NUMBER		12. PROJECT NUMBER		13. PROJECT TITLE		14. PROJECT TITLE		15. PROJECT TITLE	
\$ 200,000		65801		17865801MM21		Increment 1 - ARPADCOM		XX		XX	
SECTION A - DESCRIPTION OF PROJECT											
14. TYPE OF CONSTRUCTION											
15. PHYSICAL CHARACTERISTICS OF PRIMARY FACILITY											
16. QUANTITATIVE DATA											
17. REQUIREMENT FOR PROJECT											
18. BASIS OF REQUIREMENT											
19. COST ESTIMATES											
20. TOTAL PROJECT COST											
21. SUPPORTING FACILITIES											
22. TOTAL PROJECT COST											
23. TOTAL PROJECT COST											
24. TOTAL PROJECT COST											
25. TOTAL PROJECT COST											
26. TOTAL PROJECT COST											
27. TOTAL PROJECT COST											
28. TOTAL PROJECT COST											
29. TOTAL PROJECT COST											
30. TOTAL PROJECT COST											
31. TOTAL PROJECT COST											
32. TOTAL PROJECT COST											
33. TOTAL PROJECT COST											
34. TOTAL PROJECT COST											
35. TOTAL PROJECT COST											
36. TOTAL PROJECT COST											
37. TOTAL PROJECT COST											
38. TOTAL PROJECT COST											
39. TOTAL PROJECT COST											
40. TOTAL PROJECT COST											
41. TOTAL PROJECT COST											
42. TOTAL PROJECT COST											
43. TOTAL PROJECT COST											
44. TOTAL PROJECT COST											
45. TOTAL PROJECT COST											
46. TOTAL PROJECT COST											
47. TOTAL PROJECT COST											
48. TOTAL PROJECT COST											
49. TOTAL PROJECT COST											
50. TOTAL PROJECT COST											
51. TOTAL PROJECT COST											
52. TOTAL PROJECT COST											
53. TOTAL PROJECT COST											
54. TOTAL PROJECT COST											
55. TOTAL PROJECT COST											
56. TOTAL PROJECT COST											
57. TOTAL PROJECT COST											
58. TOTAL PROJECT COST											
59. TOTAL PROJECT COST											
60. TOTAL PROJECT COST											
61. TOTAL PROJECT COST											
62. TOTAL PROJECT COST											
63. TOTAL PROJECT COST											
64. TOTAL PROJECT COST											
65. TOTAL PROJECT COST											
66. TOTAL PROJECT COST											
67. TOTAL PROJECT COST											
68. TOTAL PROJECT COST											
69. TOTAL PROJECT COST											
70. TOTAL PROJECT COST											
71. TOTAL PROJECT COST											
72. TOTAL PROJECT COST											
73. TOTAL PROJECT COST											
74. TOTAL PROJECT COST											
75. TOTAL PROJECT COST											
76. TOTAL PROJECT COST											
77. TOTAL PROJECT COST											
78. TOTAL PROJECT COST											
79. TOTAL PROJECT COST											
80. TOTAL PROJECT COST											
81. TOTAL PROJECT COST											
82. TOTAL PROJECT COST											
83. TOTAL PROJECT COST											
84. TOTAL PROJECT COST											
85. TOTAL PROJECT COST											
86. TOTAL PROJECT COST											
87. TOTAL PROJECT COST											
88. TOTAL PROJECT COST											
89. TOTAL PROJECT COST											
90. TOTAL PROJECT COST											
91. TOTAL PROJECT COST											
92. TOTAL PROJECT COST											
93. TOTAL PROJECT COST											
94. TOTAL PROJECT COST											
95. TOTAL PROJECT COST											
96. TOTAL PROJECT COST											
97. TOTAL PROJECT COST											
98. TOTAL PROJECT COST											
99. TOTAL PROJECT COST											
100. TOTAL PROJECT COST											

DD FORM 1391
1 OCT 76

Section 8 (Contd)

1. DATE Nov 1976		2. FISCAL YEAR 1977		3. MILITARY CONSTRUCTION PROJECT DATA				4. DEPARTMENT Army		5. INSTALLATION Picatinny Arsenal	
6. PRIOR AUTHORIZATION \$151,000		7. PRIOR AUTHORIZATION P.L.		8. CATEGORY CODE NUMBER 6.98.01.A		9. PROGRAM ELEMENT NUMBER		10. STATE/COUNTRY New Jersey		11. PROJECT TITLE Install Video Cabling Increment 1, ARRA0000	
12. PROPOSED APPROPRIATION \$151,000		13. BUDGET ACCOUNT NUMBER 69801		14. PROJECT NUMBER 1F06801M21		15. PROJECT NUMBER		16. PROJECT NUMBER		17. PROJECT NUMBER	
SECTION A - DESCRIPTION OF PROJECT											
18. PHYSICAL CHARACTERISTICS OF PRIMARY FACILITY											
19. TYPE OF CONSTRUCTION		20. NO. OF BLOBS		21. NO. OF STORIES		22. LENGTH		23. WIDTH		24. AREA	
A. PERMANENT		X		N/A		N/A		N/A		N/A	
B. SEMIPERMANENT											
C. TEMPORARY											
D. COOLING		N/A		CAP		N/A		COST		N/A	
19. DESCRIPTION OF WORK TO BE DONE											
Relocate Instrumentation Cabling for 14 Video Display Stations from Frankford Arsenal to Picatinny Arsenal.											
20. SUPPORTING FACILITIES											
A. Relocate Inst Cabling											
B.											
C.											
D.											
E.											
F.											
G.											
H.											
I.											
J.											
K.											
L.											
M.											
N.											
O.											
P.											
Q.											
R.											
S.											
T.											
U.											
V.											
W.											
X.											
Y.											
Z.											
AA.											
AB.											
AC.											
AD.											
AE.											
AF.											
AG.											
AH.											
AI.											
AJ.											
AK.											
AL.											
AM.											
AN.											
AO.											
AP.											
AQ.											
AR.											
AS.											
AT.											
AU.											
AV.											
AW.											
AX.											
AY.											
AZ.											
BA.											
BB.											
BC.											
BD.											
BE.											
BF.											
BG.											
BH.											
BI.											
BJ.											
BK.											
BL.											
BM.											
BN.											
BO.											
BP.											
BQ.											
BR.											
BS.											
BT.											
BU.											
BV.											
BW.											
BX.											
BY.											
BZ.											
CA.											
CB.											
CC.											
CD.											
CE.											
CF.											
CG.											
CH.											
CI.											
CJ.											
CK.											
CL.											
CM.											
CN.											
CO.											
CP.											
CQ.											
CR.											
CS.											
CT.											
CU.											
CV.											
CW.											
CX.											
CY.											
CZ.											
DA.											
DB.											
DC.											
DD.											
DE.											
DF.											
DG.											
DH.											
DI.											
DJ.											
DK.											
DL.											
DM.											
DN.											
DO.											
DP.											
DQ.											
DR.											
DS.											
DT.											
DU.											
DV.											
DW.											
DX.											
DY.											
DZ.											
EA.											
EB.											
EC.											
ED.											
EE.											
EF.											
EG.											
EH.											
EI.											
EJ.											
EK.											
EL.											
EM.											
EN.											
EO.											
EP.											
EQ.											
ER.											
ES.											
ET.											
EU.											
EV.											
EW.											
EX.											
EY.											
EZ.											
FA.											
FB.											
FC.											
FD.											
FE.											
FF.											
FG.											
FH.											
FI.											
FJ.											
FK.											
FL.											
FM.											
FN.											
FO.											
FP.											
FQ.											
FR.											
FS.											
FT.											
FU.											
FV.											
FW.											
FX.											
FY.											
FZ.											
GA.											
GB.											
GC.											
GD.											
GE.											
GF.											
GG.											
GH.											
GI.											
GJ.											
GK.											
GL.											
GM.											
GN.											
GO.											
GP.											
GQ.											
GR.											
GS.											
GT.											
GU.											
GV.											
GW.											
GX.											
GY.											
GZ.											
HA.											
HB.											
HC.											
HD.											
HE.											
HF.											
HG.											
HH.											
HI.											
HJ.											
HK.											
HL.											
HM.											
HN.											
HO.											
HP.											
HQ.											
HR.											
HS.											
HT.											
HU.											
HV.											
HW.											
HX.											
HY.											
HZ.											
IA.											
IB.											
IC.											
ID.											
IE.											
IF.											
IG.											
IH.											
II.											
IJ.											
IK.											
IL.											
IM.											
IN.											
IO.											
IP.											
IQ.											
IR.											
IS.											
IT.											
IU.											
IV.											
IW.											
IX.											
IY.											
IZ.											
JA.											
JB.											
JC.											
JD.											
JE.											
JF.											
JG.											
JH.											
JI.											
JJ.											
JK.											
JL.											
JM.											
JN.											
JO.											
JP.											
JQ.											
JR.											
JS.											
JT.											
JU.											
JV.											
JW.											
JX.											
JY.											
JZ.											
KA.											
KB.											
KC.											
KD.											
KE.											
KF.											
KG.											
KH.											
KI.											
KJ.											
KK.											
KL.											
KM.											
KN.											
KO.											
KP.											
KQ.											
KR.											
KS.											
KT.											
KU.											
KV.											
KW.											
KX.											
KY.											
KZ.											
LA.											
LB.											
LC.											
LD.											
LE.											
LF.											
LG.											
LH.											
LI.											
LJ.											
LK.											
LL.											
LM.											
LN.											
LO.											
LP.											
LQ.											
LR.											
LS.											
LT.											
LU.											
LV.											
LW.											
LX.											
LY.											
LZ.											
MA.											
MB.											
MC.											
MD.											
ME.											
MF.											
MG.											
MH.											
MI.											
MJ.											
MK.											
ML.											
MM.											
MN.											
MO.											
MP.											
MQ.											
MR.											
MS.											
MT.											
MU.											
MV.											
MW.											
MX.											
MY.											
MZ.											
NA.											
NB.											
NC.											
ND.											
NE.											
NF.											
NG.											
NH.											
NI.											
NJ.											
NK.											
NL.											
NM.											
NN.											
NO.											
NP.											
NQ.											
NR.											
NS.											
NT.											
NU.											
NV.											
NW.											
NX.											
NY.											
NZ.											
OA.											
OB.											
OC.											
OD.											
OE.											
OF.											
OG.											
OH.											
OI.											
OJ.											
OK.											
OL.											
OM.											
ON.											
OO.											
OP.											
OQ.											
OR.											
OS.											
OT.											
OU.											
OV.											
OW.											
OX.											
OY.											
OZ.											
PA.											
PB.											
PC.											
PD.											
PE.											
PF.											
PG.											
PH.											
PI.											
PJ.											
PK.											
PL.											
PM.											
PN.											
PO.											
PP.											
PQ.											
PR.											
PS.											
PT.											
PU.											
PV.											
PW.											
PX.											
PY.											
PZ.											
QA.											
QB.											
QC.											
QD.											
QE.											
QF.											
QG.											
QH.											
QI.											
QJ.											
QK.											
QL.											
QM.											
QN.											
QO.											
QP.											
QQ.											
QR.											
QS.											
QT.											
QU.											
QV.											
QW.											
QX.											
QY.											
QZ.											
RA.											
RB.											
RC.											
RD.											
RE.											
RF.											
RG.											
RH.											
RI.											
RJ.											
RK.											
RL.											
RM.											
RN.											
RO.											
RP.											
RQ.											
RR.											
RS.											
RT.											
RU.											
RV.											
RW.											
RX.											
RY.											
RZ.											
SA.											
SB.											
SC.											
SD.											
SE.											
SF.											
SG.											
SH.											
SI.											
SJ.											
SK.											
SL.											
SM.											
SN.											
SO.											
SP.											
SQ.											
SR.											
SS.											
ST.											
SU.											
SV.											
SW.											
SX.											
SY.											
SZ.											
TA.											
TB.											
TC.											
TD.											
TE.											
TF.											
TG.											
TH.											
TI.											
TJ.											
TK.											
TL.											
TM.											
TN.											
TO.											
TP.											
TQ.											
TR.											
TS.											
TT.											
TU.											
TV.											
TW.											
TX.											
TY.											
TZ.											
UA.											
UB.											
UC.											
UD.											
UE.											
UF.											
UG.											
UH.											
UI.											
UJ.											
UK.											
UL.											
UM.											
UN.											
UO.											
UP.											
UQ.											
UR.											
US.											
UT.											
UU.											
UV.											
UW.											
UX.											
UY.											
UZ.											
VA.											
VB.											
VC.											
VD.											
VE.											
VF.											
VG.											
VH.											
VI.											
VJ.											
VK.											
VL.											
VM.											
VN.											
VO.											
VP.											
VQ.											
VR.											
VS.											
VT.											
VU.											
VV.											
VW.											
VX.											
VY.											
VZ.											
WA.											
WB.											
WC.											
WD.											
WE.											
WF.											
WG.											
WH.											
WI.											
WJ.											
WK.											
WL.											
WM.											
WN.											
WO.											
WP.											
WQ.											
WR.											
WS.											
WT.											
WU.											
WV.											
WW.											
WX.											
WY.											
WZ.											
XA.											
XB.											
XC.											
XD.											
XE.											
XF.											
XG											

Section 8 (Contd)

1. DATE NOV 1976		2. FISCAL YEAR 1977		3. DEPARTMENT ARMY				4. INSTALLATION Picatinny Arsenal	
5. PROPOSED AUTHORIZATION \$ 152,500				6. PRIOR AUTHORIZATION P.L.				7. CATEGORY CODE NUMBER 5500	
8. PROPOSED APPROPRIATION \$ 152,500				9. BUDGET ACCOUNT NUMBER 65801				10. PROJECT NUMBER 1P865801MM21	
11. PROJECT TITLE Install Test Chamber Increment 1, ARRADCOM				12. STATE/COUNTRY New Jersey				13. PROJECT NUMBER 6.58.01.A	
14. TYPE OF CONSTRUCTION X PERMANENT RELOCATE test chamber from Frankford Arsenal to bidg. 3100, Picatinny Arsenal.				15. NO. OF BLOCS 1				16. NO. OF STORIES NA	
17. DESIGN CAPACITY NA				18. LENGTH NA				19. WIDTH NA	
20. COOLING NA				21. CAP NA				22. COST NA	
23. TYPE OF WORK X NEW FACILITY				24. DESCRIPTION OF WORK TO BE DONE Relocate test chamber from Frankford Arsenal to bidg. 3100, Picatinny Arsenal.				25. TYPE OF DESIGN X STANDARD DESIGN	
26. ADDITION				27. ALTERATION				28. CONVERSION	
29. OTHER (Specify)				30. REPLACEMENT				31. TYPE OF DESIGN X STANDARD DESIGN	
32. SPECIAL DESIGN				33. DRAWING NO.				34. QUANTITATIVE DATA (U/M N/A)	
35. TOTAL REQUIREMENT				36. EXISTING STANDARD				37. EXISTING ADEQUATE	
38. FUNDED NOT IN INVENTORY				39. ADEQUATE ASSETS (F + D)				40. AUTHORIZED FUNDED	
41. UNFUNDED PRIOR AUTHORIZATION				42. INCLUDED IN FY PROGRAM				43. DEFICIENCY (A - B - C - D)	
44. RELATED PROJECTS				45. DESIGN (unfunded) 151				46. TOTAL PROJECT COST \$ 152.5	

DD FORM 1391
1 OCT 70

MILITARY CONSTRUCTION PROJECT DATA						SECTION B - COST ESTIMATES				
1. DATE Nov 1976	2. FISCAL YEAR 1979	3. PROPOSED AUTHORIZATION \$ 80,000	4. PRIOR AUTHORIZATION P.L.	5. CATEGORY CODE NUMBER 5500	6. STATE/COUNTRY New Jersey	7. DEPARTMENT Army	8. INSTALLATION Picatinny Arsenal			
		10. PROPOSED APPROPRIATION \$ 80,000	11. BUDGET ACCOUNT NUMBER 05901	12. PROJECT NUMBER IP965BOLT421	13. PROJECT TITLE Install Torsion Meter Increment 2, ARPACOM			14. QUANTITY	15. UNIT COST	16. TOTAL COST
						SECTION A - DESCRIPTION OF PROJECT				
						PHYSICAL CHARACTERISTICS OF PRIMARY FACILITY				
						a. NO OF BLOKS	b. LENGTH N/A	c. WIDTH N/A	d. AREA N/A	e. GROSS AREA N/A
						f. DESIGN CAPACITY	N/A	g. COOLING	N/A	h. COST (\$)
						i. DESCRIPTION OF WORK TO BE DONE Relocate Torsionmeter from Rock Island Arsenal to Bldg 351, Picatinny Arsenal.				
						j. TYPE OF WORK				
						k. NEW FACILITY				
						l. ADDITION				
						m. ALTERATION				
						n. CONVERSION				
						o. OTHER (SPECIFY)				
						p. REPLACEMENT				
						q. STANDARD DESIGN				
						r. SPECIAL DESIGN				
						s. DRAWING NO.				
						SECTION C - BASIS OF REQUIREMENT				
						REQUIREMENT FOR PROJECT This item is urgently required to provide the minimum facilities necessary to transfer the presently assigned armament mission from Rock Island Arsenal to Picatinny Arsenal. This project provides facilities for research, development, experimentation, technical data recording, experimental fabrication and testing associated with the current island mission and where economies dictate, the consolidation of other transfers into one project. This particular item provides for installation of torsion and ductility testing capabilities as part of the small and large caliber ammunition, prototyping capability and will be located in Bldg. 351 Mechanics Laboratory. The transfer of function and the establishment of the ADC will result in \$37,000,000 annual savings. This reorganization will streamline the armament development activities for all weapons systems and ammunition so critical to national defense. This project complies with the intent of PL 91-190 and PL 90-480.				
						QUANTITATIVE DATA (U/M = N/A)				
						1. TOTAL REQUIREMENT				
						2. EXISTING SUBSTANDARD				
						3. EXISTING ADEQUATE				
						4. FUNDED NOT IN INVENTORY				
						5. ADEQUATE ASSETS (C + D)				
						6. UNFUNDED PRIOR AUTHORIZATION				
						7. DEFENSE PROGRAM				
						8. RELATED PROJECTS				

1. DATE Dec 1976	2. FISCAL YEAR 1977	MILITARY CONSTRUCTION PROJECT DATA				3. DEPARTMENT ARMY	4. INSTALLATION Aberdeen Proving Ground
5. PROPOSED AUTHORIZATION \$ 210,000	6. PRIOR AUTHORIZATION PL	7. CATEGORY CODE NUMBER 310-34	8. PROGRAM ELEMENT NUMBER 6.58.01.A	9. STATE/COUNTRY Maryland			
10. PROPOSED APPROPRIATION \$ 210,000	11. BUDGET ACCOUNT NUMBER 685801001	12. PROJECT NUMBER 1P865801MM21	13. PROJECT TITLE Equipment in Place for Computer Facility Basement, Bldg 328				

SECTION A - DESCRIPTION OF PROJECT										SECTION B - COST ESTIMATES				
14. TYPE OF CONSTRUCTION		18. PHYSICAL CHARACTERISTICS OF PRIMARY FACILITY								20. PRIMARY FACILITY	U M	QUANTITY	UNIT COST	COST (\$000)
A. PERMANENT	X	A. NO. OF BLDGS	NA	A. NO. OF STORES	NA	A. LENGTH	NA	A. WIDTH	NA	Alterations			\$	\$ 210.0
B. SEMI-PERMANENT		B. DESIGN CAPACITY	NA	B. COOLING	NA	B. GROSS AREA	NA	B. CAP	NA					
C. TEMPORARY		C. COOLING	NA	C. CAP	NA	C. COST	NA	C. IS	NA					
15. TYPE OF WORK		19. DESCRIPTION OF WORK TO BE DONE								21. SUPPORTING FACILITIES				
A. NEW FACILITY		Site preparation for installation of new computer and accompanying air conditioning and fire protection systems.												
B. ADDITION														
C. ALTERATION	X													
D. CONVERSION														
E. OTHER (Specify)														
16. REPLACEMENT														
17. TYPE OF DESIGN														
A. STANDARD DESIGN														
B. SPECIAL DESIGN	X													
C. DRAWING NO.														
23. QUANTITATIVE DATA (U M NA)										32. TOTAL PROJECT COST (Funded)				\$ 210.0
25. REQUIREMENT FOR PROJECT To provide a suitable site, in a basement wing of the US Army Ballistic Research Laboratories, for a new computer. New computer used for scientific and engineering computations in support of ballistics technology research and ballistics vulnerability, vulnerability reduction, human engineering and system analysis. Site preparation and equipment is a necessary preliminary step to installation of the new computer which is tentatively scheduled for delivery in the 4th quarter of FY 77. At present, the computational requirements of the above laboratories are being met by two obsolete batch processors operating 24 hours a day. If this project is not approved, acquisition of the computer would be delayed. Since the present and predicted workload of the BRL computers cannot be handled by present equipment or other existing facilities, this would only aggravate an already acute situation. This project meets the requirements prescribed in AR 415-35.										Total Funded				210.0
A. TOTAL REQUIREMENT														
B. EXISTING SUBSTANDARD														
C. EXISTING ADEQUATE														
D. FUNDED, NOT IN INVENTORY														
E. ADEQUATE ASSETS (C.I.S.)														
F. UNFUNDED PRIOR AUTHORIZATION														
G. INCLUDED IN FY PROGRAM														
H. DEFICIENCY (A - B - F - G)														
24. RELATED PROJECTS														

[illegible]

SECTION C - RASB OF K	
C. REQUIREMENT FOR ORDER	
ITEM NO.	DESCRIPTION
	This project is urgently required to provide the minimum laboratory facilities necessary at Fort Belvoir to house the reorganized laser research and development missions presently assigned to the Electronics Command at Fort Monmouth, N.J., and Harry Diamond Laboratories, Adelphi, MD. These missions are being transferred as a part of the Army's implementation of the ANARC study and consolidated with similar functional missions already located at Fort Belvoir. It is a part of the first phase of a three year program necessary to establish the new US Army Electronics Research and Development Command at a number of locations. This reorganization will achieve in excess of \$7,200,000 annual savings. This project provides for installation of laboratory facilities for research, development, experimentation, technical data recording, experimental fabrication and testing for various type of laser devices to be utilized for distance ranging, fire control, target designation, target signature, and similar applications. If this project is not approved in this program it will delay the achievement of the dollar savings by delaying the consolidation of personnel and support facilities and will unfavorably effect the coordinated development of urgently needed battlefield laser systems. This project has been reviewed and complies with the intent of PL 91-190 and 190-48.

[Signature]
VICTOR S. UNDERHILL, Colonel, GS
Director of Facilities and Equipment

VICTOR S. UNDERHILL, COAHUETL, GS
Director of Facilities and Equipment, ERADCOM

Section 8 (Contd)

1. DATE Nov 76		2. FISCAL YEAR 1977		3. MILITARY CONSTRUCTION PROJECT DATA		4. DEPARTMENT Army		5. INSTALLATION Vint Hills Farm Station	
6. PROPOSED AUTHORIZATION \$ 127,000		7. PRIOR AUTHORIZATION P.L.		8. CATEGORY CODE NUMBER 310		9. PROGRAM ELEMENT NUMBER		10. STATE/COUNTRY Virginia	
11. PROPOSED APPROPRIATION \$ 127,000		12. BUDGET ACCOUNT NUMBER 685801		13. PROJECT NUMBER ERAUCOM T-7		14. PROJECT TITLE Install Signals Warfare Research Development Facilities		15. PROJECT NUMBER	

SECTION A - DESCRIPTION OF PROJECT				SECTION B - COST ESTIMATES			
16. TYPE OF CONSTRUCTION X REINFORCED CONCRETE NEW PERMANENT TEMPORARY TYPE OF WORK INSTALLATION ALTERATION CONVERSION OTHER (Specify) Equipment Install				17. PHYSICAL CHARACTERISTICS OF PRIMARY FACILITY A. NO. OF BLOKS B. NO. OF STORIES C. LENGTH D. WIDTH E. GROSS AREA F. GROSS AREA G. COOLING CAP. H. COST (\$)			
18. DESCRIPTION OF WORK TO BE DONE Installation of electronic laboratory equipment from Fort Monmouth, movement and reinstallation of USASA equipment and rearrange building.				19. SUPPORTING FACILITIES Equipment installation and movement LS			
20. REPLACEMENT				21. TOTAL PROJECT COST \$ 127			
22. STANDARD DESIGN							
23. SPECIAL DESIGN							
24. DRAWING NO.							

SECTION C - BASIS OF REQUIREMENT			
25. REQUIREMENT FOR PROJECT This project is urgently required to provide the minimum laboratory facilities necessary at Vint Hills to house the reorganized Signals Warfare research and development missions presently assigned to the Electronics Command at Fort Monmouth, NJ and the US Army Security Agency at Arlington Hall Station, VA. These missions are being transferred as a part of the Army's implementation of the AMARC study and consolidated with similar functional missions already located at Vint Hills. It is a part of the first phase of a three year program necessary to establish the new US Army Electronics Research and Development Command at a number of locations. This reorganization will achieve in excess of \$7,200,000 annual savings. This project provides installation of laboratory facilities for research, development, experimentation, technical data recording, experimental fabrication and testing for various types of signal warfare and intelligence electronic devices. If this project is not approved in this program it will delay the achievement of the dollar savings by delaying the consolidation of personnel and support facilities and will unfavorably effect the coordinated development of urgently needed tactical and strategic systems. This project has been reviewed and complies with the intent of PL 91-190 and PL 190-48.			

DD FORM 1391

John S. Underhill
 CAPT. US
 Director of Facilities and Equipment, ERA

SECTION 3 (Cont'd)

1. DATE Nov 78		2. FISCAL YEAR 1977		3. DEPARTMENT Army		4. INSTALLATION Fort Monmouth	
5. PRIOR AUTHORIZATION \$ 243,000		6. PRIOR AUTHORIZATION P.L.		7. CATEGORY CODE NUMBER 310		8. PROGRAM ELEMENT NUMBER ERADCOM T-8	
9. REQUESTED APPROPRIATION \$ 243,000		10. BUDGET ACCOUNT NUMBER 685801		11. PROJECT NUMBER ERADCOM T-8		12. PROJECT TITLE Deinstall ERADCOM Laser and Signals Warfare Labs Equipment	

SECTION A - DESCRIPTION OF PROJECT				SECTION B - COST ESTIMATES			
13. TYPE OF CONSTRUCTION	14. NO. OF BLOBS	15. NO. OF STORIES	16. LENGTH	17. WIDTH	18. GROSS AREA	19. COST (\$)	20. PRIMARY FACILITY
1. PERMANENT	X						a
2. SEMI-PERMANENT	X						b
3. TEMPORARY	X						c
19. DESCRIPTION OF WORK TO BE DONE Deinstall, pack, crate, handle and shipment of laboratory and other equipment from Wood, Evans and Wayside areas of Fort Monmouth, NJ to Fort Belvoir and Vint Hill Farms Station, VA.							
21. SUPPORTING FACILITIES							
a. Equipment deinstallation							
packing, crating							
handling and shipment							
to Fort Belvoir, VA							
b. Equipment deinstallation,							
packing, crating,							
handling and shipment							
to Vint Hill Farm							
Station, VA							
LS							
CO							
153							
22. TOTAL PROJECT COST							
\$ 243							

SECTION C - BASIS OF REQUIREMENT			
23. REQUIREMENT FOR PROJECT This project is urgently required to deinstall, pack and ship the equipment necessary at Vint Hill and Fort Belvoir to house the reorganized Signals Warfare and Laser research and development missions presently assigned to the Electronics Command at Fort Monmouth, NJ and the US Army Security Agency at Arlington Hall Station, VA. These missions are being transferred as a part of the Army's implementation of the ADPC study and consolidated with similar functional missions already located at Vint Hill and Fort Belvoir. It is a part of first phase of a three year program necessary to establish the new US Army Electronics Research and Development Command at a number of locations. This reorganization will achieve in excess of \$7,200,000 annual savings. This project complies with ERADCOM projects T-1 and T-7 (same budget submission) by providing the Fort Monmouth portion of the funding. If this project is not approved in this program it will delay the achievement of the dollar savings by delaying the consolidation of personnel and support facilities and will unfavorably effect the coordinated development of urgently needed tactical and strategic systems. This project has been reviewed and complies with the intent of PL 91-190 and PL 190-48.			
24. QUANTITATIVE DATA (U/M)			
1. TOTAL REQUIREMENT			
2. EXISTING SUBSTANCE			
3. EXISTING ADEQUATE			
4. FUNDED NOT IN INVENTORY			
5. ADEQUATE ASSETS (C + D)			
6. UNFUNDED PRIOR AUTHORIZATION			
7. INCLUDED IN FY PROGRAM			
8. BASIC CENCY 91-190			
25. RELATED PROJECTS			

DD FORM 1391
1 OCT 78

84

Victor S. UNDERHILL, COL, GS

Director of Facilities and Equipment, ERADCOM

Page No.

<u>Section 9</u>	<u>DEPARTMENT OF DEFENSE, MILITARY RESEARCH, DEVELOPMENT, TEST, AND EVALUATION, ARMY FLIGHT SIMULATOR PROGRAMS</u> (\$ in Thousands)					<u>Descriptive Summary Reference</u>
	<u>Program Element/Project</u>	<u>FY 1976</u>	<u>FY 1977</u>	<u>FY 1978</u>	<u>FY 1979</u>	
	6.32.09.A/DB39 - Flight Simulator Components	300	950	1,414	1,700	
	6.42.04.A/D275 - Synthetic Flight Training System	2,876	5,391	6,156	5,100	708